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GROUND FORCES: GERMAN SOURCE ON TRAINING PROCEDURES

Bonn TRUPPENPRAXIS in German No 8, 1980, pp 640-650

[Article by Col Erich Sobik, Ret.: "Soviet Ground Forces Command Principles"]

> [Text] Information on the command and combat principles of foreign armies, especially the Soviet ground forces, constitutes an essential prerequisite for an accurate situation estimate. After a general review of the thinking behind Soviet command principles and on the effects of new weapons systems regarding command as such, the author addresses himself to the organization, missions, and cooperation existing in a division headquarters; next he provides information on the communications system, on the method used in issuing orders, and on the work of such a headquarters in combat. The article is completed by critical comments from the author who was assigned to various G-2 positions and who is now retired. The author last published the essay entitled "The Soviet Nyemen Maneuvers" in No 1, 1980, of this magazine.

General Remarks

Since the beginning of the sixties, the Soviet military command has been talking in terms of the so-called "revolution in military affairs" which was caused above all by the creation of atomic weapons for the battlefield. It justifies this concept roughly as follows: according to the teachings of dialectical materialism, the philosophy of Marxism-Leninism, which claims that it is the sole correct theory for the "scientific discovery of the general laws of nature, society, and thinking," events in nature and in society must be construed as the only process of matter which is always in motion. According to Lenin, matter is the "objective reality which exists independently of consciousness."

The development of matter itself is interpreted not as an evolutionary but as a dialectical process, that is to say, it takes place not only in small, successive steps, but lawfully leads from quantitative changes through a sudden--the so-called dialectical--jump to qualitative changes.

The same development supposedly can also be observed in the armed forces: for centuries, those armed forces developed increasingly, they have been getting ever better and more powerful weapons and equipment, and training has also improved. What the philosophers of Marxism mean by quantitative change supposedly has thus taken place.

The so-called qualitative change took place supposedly as a result of the invention of atomic weapons and their issue to the armed forces in sufficient quantities, in combination with the achievements of electronics, cybernetics, the construction of long-range missiles. The Soviets say that the so-called "revolution in military affairs" did take place and this is also what they call it. The revolution supposedly took place and it supposedly has its consequences on the various fields of military endeavor.

In practice there is no major difference as compared to our customary situation estimate which in the West is free of any ideological compulsions. Science and technology constantly supply us with new and more effective weapons and equipment which are being issued to the troops. The military command has been given permission by the political leadership to employ these new weapons and equipment as effectively as possible in combat with the help of well-trained troops who will be commanded by a superior command.

Nowadays, an old principle tells us that the role of one or the other form of society in this world depends essentially on the effectiveness of its command and that applies especially to the armed forces. Here quite particularly the quality of command must be further developed in a constant process of qualitative improvement and adaptation to scientific-technological progress.

An investigation of this problem necessarily must deal with unit command as a whole and with the organization of staff work. There is no doubt that a skillful command must above all rest on three foundations:

Practical forms of organization,

Adequate information arriving without time loss and

Effective technical procedures.

All that we have said so far applies equally also to the Soviet armed forces. They are also writing and talking much about cybernetics, about computers, and operations-research methods. Their literature is likewise full of articles and contributions which advocate the modern tendency of our present-day industrial age qualitatively to grasp if possible all processes in terms of an absolute generalization in order thereupon, with the help of scientifically developed formulas, to develop effective decision-making aids and in order thus to be able to make decisions in a more qualified and effective fashion.

This is also the picture we get as we look at the openly available Soviet military press. There is of course the well-justified impression that these literature contributions are to be understood primarily as requirements for the future and by no means represent references to actually existing things.

But it is emphasized quite clearly that, in spite of all of the credit being given to the achievements of technology and science, man is always playing the decisive role and will continue to do so in the future. The quality of military unit command therefore supposedly also in the foreseeable future will depend on the quality of the individuals who are involved in the military command process. It is the purpose of the following article to take a closer look at unit command such as it is practiced in the Soviet ground forces.

Soviet Military Command Thinking

The organization of the headquarters units on the various command echelons and the organization of staff functions in all armed forces of the world depend on the kind of military thinking that prevails in the military establishment as such. The effectiveness of unit command also very extensively depends on the kind of thinking that is behind command procedures.

The command thinking of the Soviet military command--apart from the fact that it is firmly based on the principles of Marxism-Leninism--is determined by the following three factors:

The self-confidence of the Soviet officers,

Plan-oriented thinking which is generally customary in the Soviet Union and which has also spread to the military establishment, and

Control-oriented thinking.

The present-day self-confidence of the Soviet military command and, moreover, of the Soviet officers, is extensively built on the final success achieved during the second half of World War II. In addition we have the achievements of the Soviet forces after the Stalin era which can be described as follows according to the opinions of Soviet officers:

The Soviet armed forces numerically are among the strongest,

They are the most modern fighting forces of the world,

They represent the "most progressive fighting forces of the world" which are based on the "only correct ideology, the ideology of Marxism-Leninism."

All of these factors have created the thesis of the "invincible army" in the consciousness of Soviet enlisted men and officers.

The second factor is plan-oriented thinking. It dominates all life in close conjunction with the industry of this "socialist social system." Nothing is left to "chance" and "spontaneity": the planning is done topside, while, in a downward direction plans are drawn up and orders are issued to carry out those plans. In the military establishment likewise, plans are being drawn up increasingly and those plans must be met. This plan-oriented thinking will even increase to the extent that the "scientific character" of military command is increasingly stressed.

As the third factor we must mention control-oriented thinking here. The famous motto--"Confidence is good but control is even better," which comes from Lenin--determines the entire social system. Control is being carried out always and everywhere; Lenin's statement today is hardly ever being practiced in terms of its actual meaning but more in terms of "constant control, with confidence only in special cases." Control is particularly necessary in the military establishment and that is the official Soviet view. Stalin created a typical example of that when, as Supreme Commander of the Soviet Armed Forces, on the second day of the war, on 23 June 1941, he sent his chief of staff, K. Zhukov--later to become marshal of the Soviet union--to the front as "coordinator," in other words, "control agent," in order primarily to carry out control functions there. Stalin used this method throughout the war. For example, Marshal of the Soviet Union A. Vasilyevskiy, out of 33 months of his tour of duty as chief of the joint chiefs of staff, was on duty at the front for 24 months, where he did "coordination work" or in practice exercised control. Today, control is one of the most important tasks of commanders on all echelons.

Effect of "Revolution in Military Affairs" on Unit Command

This "revolution in military affairs," as the Soviets call it, makes it necessary to review the existing concepts on unit command, to develop them further, and above all to include new task spheres.

The innovations are to consider above all the following:

It should be ascertained that all formations so to speak will be ready to go into action instantly, without a running start;

The scope and content of the information pertaining to the situation as well as data relevant for unit command increased considerably and the area covered by these tasks has grown considerably; all of this makes the operations of the staffs considerably more difficult;

The decision-making process itself, the planning of combat operations, the drafting and forwarding of orders and the necessary measures as a result of this have supposedly become more difficult and more complicated;

Combat command under atomic conditions supposedly introduces additional tasks, such as reconnoitering the position of enemy missiles, engaging those weapons, determining the effect of friendly atomic strikes, getting through radioactive and destroyed regions, etc.;

The coordination of the operations of major units, coupled with the rapid exploitation of friendly atomic strikes, presumably becomes a main factor in cooperation to begin with;

Political indoctrination also faces and new and important task, that is, the maintenance of a high level of fighting spirit under atomic combat conditions;

All measures today supposedly are closely connected with various computer operations because nowadays "decision-making, based on intuition, would mean risking defeat from the very beginning."

Simultaneously however, the time available for carrying out orders has shrunk considerably due to the increase in the scope and the qualitative changes in the content of measures which the commanders must take. This supposedly is the consequence of the faster course of combat operations and the higher probability of rapid situation changes. Situation information ages rapidly and it will be necessary considerably more frequently "precisely to spell out" the orders--otherwise the decisions and orders will not be in keeping with the real situation such as it exists.

But the time factor presumably also has gained considerable significance in conventional combat.

All of the factors mentioned resulted in a situation where unit command today must cope with far higher requirements than ever before.

Requirements for Unit Command in Soviet Ground Forces

There is no official definition of the term "unit command" in the Soviet Union. We must therefore glean it from a book by a group of authors entitled "Fundamentals of Unit Command." These officers suggest the following definition (given here in a free translation):

"Unit command is the activity carried out by a commander and his command agencies which will enable the units successfully to accomplish the assigned mission. This is above all done by determining and estimating the situation, by making a decision, and by transmitting orders to those who will have to carry them out."

The Soviet military high command has established the following requirements for unit command:

Tight organization,

Flexibility,

Uninterrupted operation (uninterrupted command),

Concealment,

Centralization and

Initiative and independence.

By tight command organization they mean the following:

Bold decision-making,

Resolute execution of that decision,

Establishment of high requirements for the commanders and their staffs,

Resolution and the will to win, the determination to beat the enemy.

According to the Soviet view, not every combat operation will develop according to a previously drafted plan. Numerous difficulties might arise and morale might drop in some units and panic might even break out. Such a situation will mean that the generals and officers are going to have to have great will power, courage, and resoluteness as well as the ability to accept a justified risk up to the point of self-sacrifice. Commanders must be in a position to mobilize and lead their soldiers regardless of all difficulties in accomplishing the mission. Tightly organized command is determined above all by the personal example set by the commander and his staff officers must follow this example and they must themselves set an example.

To be sure, tightly-organized command must not deteriorate into pig-headed and stubborn sticking to a decision that has been made in the past. On the contrary, no unit commander must assume that everything will come off exactly according to his plan. After combat operations have been organized, there begins precisely a decision phase in the activities of the commander and his staff through which the decision must be carried out. This requires strength, on the one hand, to implement the decision made and, on the other hand, again not to insist on it if the situation has developed accordingly but rather to refine the decision or perhaps to revise it from the beginning on up. The command thus must not only be tightly organized but it must also be flexible.

Here, unit command faces a requirement which in theory sounds very logical and justified but which looks a little bit different in practice. Sticking to a decision which is generally desirable and correct can be the worst mistake in case of a certain development of the situation.

Flexibility of command calls for fast response to situation changes and timely reorganization of command in order quickly to "refine" the original decision, to make a new decision, and to be able to issue new assignments to the units. To be sure, new decisions must not be judged in the light of a superficial situation estimate.

Here again we have some nice-sounding formulas whose practical implementability is very difficult. In case of mistakes or failures in combat, it is however, always possible to find a whipping boy so that it can always be correct or always wrong if one sticks to a decision or makes a new one.

Through "uninterrupted command" they require that the command must constantly influence events on the battlefield. Commanders and their staffs must always know what the situation is and must thus have a possibility of influencing the course of combat operations. Considering the present-day speed with which combat operations take place, even a brief hiatus in command activities might signify failure to accomplish the combat mission.

Here we come to a requirement which seriously clashes with the requirement for initiative and independence. Where is there any room for independence if command is uninterruptedly exercised from the top down?

The likewise required "operational capability" of the command calls for fast response to situation changes, the ability to anticipate situation developments and especially to recognize the problems arising from the use of nuclear weapons. In other words, they call for high-grade command here. These essentially are requirements which have already been stated elsewhere. But here we come to Soviet plan-oriented thinking such as it is: in some cases, more is being demanded so as to make sure that the initial requirement will at least be met somehow.

By "concealment" of command they mean all those measures which are necessary to prevent the enemy from reconoitering their own troop movements, CPs, assembly areas, logistic support facilities, and so on.

Strictest secrecy is demanded for everything having to do with planning, preparation, and implementation of operations or combat actions in order "on every echelon of strategy, the art of semistrategic operations, and tactics, to be able to exploit the element of surprise." This is a reasonable requirement of which we know that it is being carried out consistently.

By centralization of command we mean that every command echelon must act (in the sense of) the "idea of the operation." The units are commanded centrally by the next-higher superior who combines all actions of his subordinates in one plan.

Centralization to be sure according to Soviet concepts is not supposed to mean that subordinates are to be subjected to total control; presumably it "presupposes broad initiative by subordinate commanders."

This is a requirement which in practice obviously is difficult to meet. Only too frequently does the military press print stories about cases where superiors on a higher echelon very frequently are inclinded toward doing all of the thinking for the lower echelons.

Initiative and independence supposedly are to be developed and displayed in every situation and on every command echelon. They are qualities which every officer must have.

This again is a requirement which clashes with the idea of uninterrupted command and which cannot be reconciled either with the requirement for centralization.

On the whole we can say that some of the requirements are certainly well-justified and well-thought-out but that there is a series of contradictions which impairs the effectiveness of unit command.

Division HQ Organization and Cooperation

In the following we want to investigate the effectiveness of Soviet Union command with the help of organization and cooperation such as we find it within a division HQ.

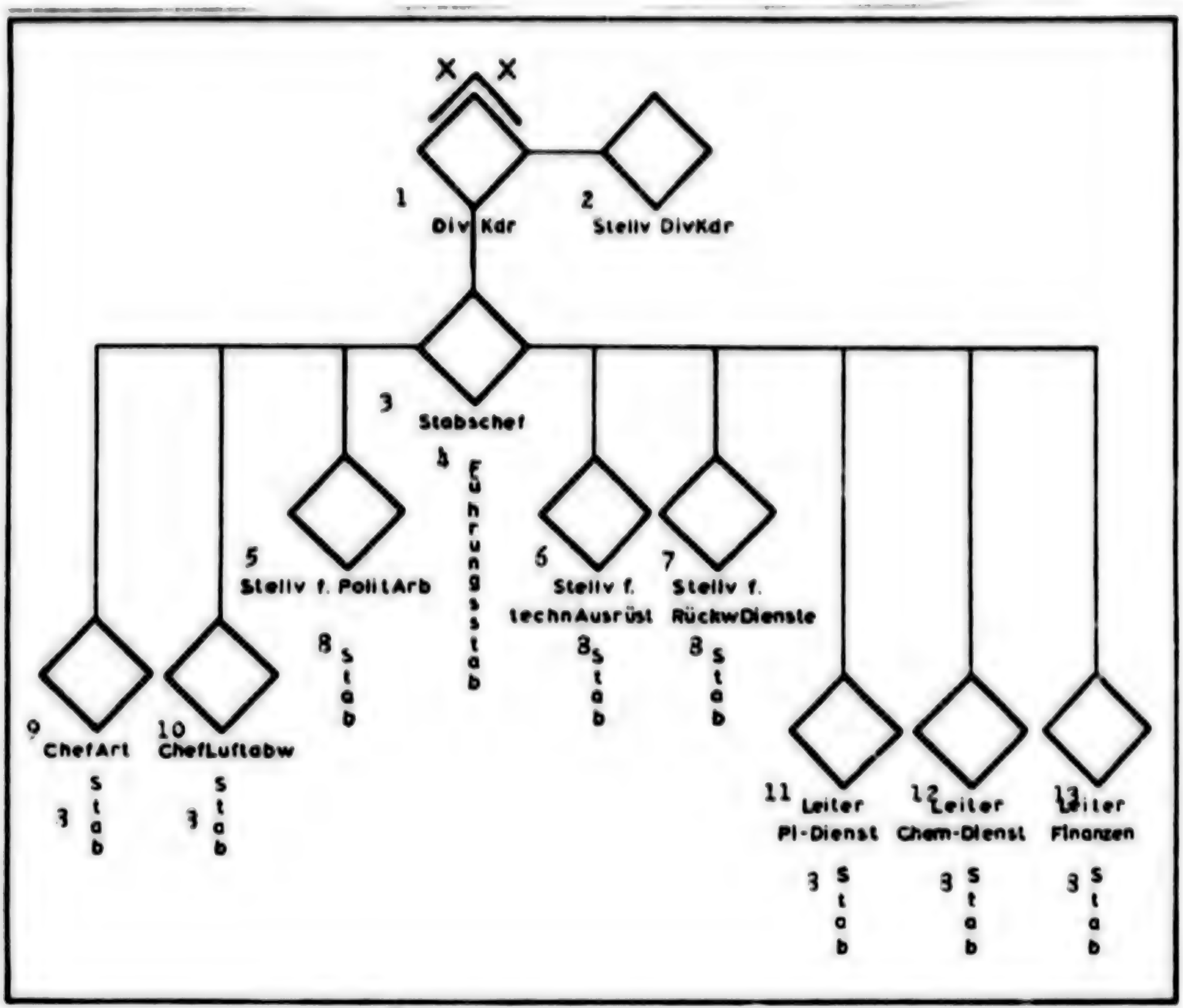

Figure 2. Composition of an HQ of a Soviet armored and motorized rifle division. Key: 1 -- div CG; 2 -- deputy div CG; 3 -- C of S; 4 -- operations staff; 5 -- political affairs deputy; 6 -- technical equipment deputy; 7 -- deputy for support [rear CP]; 8 -- staff; 9 -- divarty cmdr; 10 -- AA arty cmdr; 11 -- chf, Engineers; 12 -- chf, CWS; 13 -- chf, finance.

Division Commander

According to the Soviet concept, the commander is the central figure in unit command. He leads his major and minor units on the bases:

Of the authority given him by the state and the party,

Of applicable regulations and

Corresponding orders and directives from higher superiors.

As commander with unrestricted command authority (in Russian this is called "yedinonachalye," with the GDR translation meaning: individual leadership), he bears full responsibility for the accomplishment of combat missions and he is personally responsible for the success or failure of each individual military measure. He is the organizer of all unit actions outside of and during combat.

He is obligated:

To make the decision at the right time following a personal situation estimate,

Swiftly to assign tasks to his subordinates and

To exercise or ensure constant control over the actions of the unit.

He must work toward the precise and timely accomplishment of the primary mission which is to smash the enemy with the least expenditure of resources.

He will use the following in preparing the situation estimates:

His deputy,

The chief of staff,

The commanders of the several arms of the service and

The directors of the support services.

They are his closest collaborators and they must be involved because the commander cannot handle the "complex of his command assignments" all by himself. Thus he leads his unit through his staff, his deputy, the commanders of the various arms, and the directors of the support services.

Division CG's Deputy

He is responsible for commanding the division in the absence or in case of the disability of the division CG. Moreover, he is above all responsible for organization, training, and action readiness of the various formations. He naturally stands in his commander's shadow and must often carry out unpleasant assignments. In wartime, he will primarily be at the alternate CP and he will be a kind of reserve commander. This is obviously a final duty tour for senior colonels.

Chief of Staff

He is the commander's deputy and is the only one who has the right to issue orders and directives in the commander's name. He is responsible for the organization and maintenance of uninterrupted unit command in combat.

He personally coordinates the activities of all:

Other deputies,

Commanders of arms of the service,

Special units and

Headquarters units.

He must at all times have the big picture regarding the situation and he must be able to anicipate "development tendencies" in the course of combat in order to draw conclusions from that and to submit corresponding proposals to the commander. He must always know what the commander's intentions are, he must have all directives issued to the units in his head and he must organize constant supervision over implementation.

He has his own staff to carry out this assignment.

Political Affairs Deputy

Personally subordinated to the commander [CG], he is responsible for the following:

Indoctrination and development of a high level of fighting morale among the troops,

Party and political indoctrination,

Welfare, recreation, and cultural activities,

Liaison with the press.

He is, to be sure, subordinated to the commander but holds a special position because he is responsible for political training and indoctrination and in that respect he is responsible not only to his commander but also toward his party--something which naturally is much more important. His own, direct official reporting channel--which the political affairs deputy can use in contacting the director of the political main department who, in turn, although under the defense minister, gets his directives straight from the Central Committee--is just one expression of the special position held by the political affairs deputy.

He will normally be a junior officer who is supposed to devote his full energy in order to provide the necessary impact for political indoctrination. Of course, he needs time for that--time which is also required for other types of training. Here he is to some extent in conflict with the commander who is responsible for overall training. On the other hand, every commander must recognize the value of political indoctrination because otherwise his days as commander will be numbered. The political affairs deputy thus, to be sure, is a close collaborator of the commander who however often must advocate his own interests.

Divarty Commander

He is the chief artillery officer but he is not simultaneously also the CO of the artillery regiment. He has a staff of his own, headed by a chief of staff, to handle his command, liaison, administrative, reconnaissance, and other functions.

In operational terms, he is placed under his division CG to handle the employment of artillery; his technical superior, in addition, is the chief of rocket units and artillery of the next-higher unit, that is the army [Soviet-style, equivalent to corps].

For artillery supply, he has an "ordnance officer" who is responsible for ammunition supply and for the repair of artillery equipment.

At this point we would like to stress particularly that ammunition supply, in the Soviet ground forces, has priority ahead of any other kind of supplies.

The following have assignments for their special units which are similar to those of the divarty commander:

The commander, AA artillery,

Director, Engineers,

Director, CWS.

Technical Equipment Deputy

He is the division's engineer and must see to the repair of tanks, motor vehicles, and all equipment, to the extent that these items are not within the sphere of competence of the commanders of the various arms and the director of support services (artillery, AA defense, Engineers, CWS).

Deputy for Support

His responsibility involves supply of the following:

Rations,

Fuel,

Clothing and

Miscellaneous equipment.

In practical terms, he is the "top logistics officer" who, to be sure, has been deprived of such essential functions as ammunition supply where, as we said before, the various commanders of the arms of the service are competent.

Cooperation

How does cooperation in such a staff work?

Basically it must be noted that the Soviet solution is built on the so-called deputy principle, that is to say, all responsibility below the echelon of the division CG is subdivided into special sectors; the individuals responsible in each case are personally responsible to the division CG.

This distribution of responsibilities on the echelon of the:

Deputies,

Commanders of arms of the service and

Directors of support services,

Signifies a kind of decentralization which in combat guarantees successful activities only if smooth and uninterrupted coordination has been assured.

The top coordinator is the chief of staff who, to be sure, has a staff of his own to accomplish this mission.

Overall however we can clearly recognize two spheres:

The group of the chief of staff with the operations staff, plus the support functions of the commanders of the arms of the service and the directors of the support services with their staffs;

The group of individuals responsible for logistic functions, such as the deputy for support services, the technical equipment deputy, and the commanders of the arms of the service, to the extent that they also perform logistic functions.

This brings us to the question as to whether the distribution of the logistic functions into two spheres in practice really constitutes an effective solution which guarantees a smooth flow of supply also in combat operations, said two spheres being made up as follows:

Under the deputy of the support services we have:

Rations
Fuel
Clothing
Equipment;

Medical
And veterinary support
Finance

And under the commanders of the various arms of the service and the deputy for technical equipment we have the following:

Weapons
Ammunition
Large equipment.

Communications, Engineers, NBC equipment,
Repair services

The attentive reader of the Soviet military press will note that there are numerous references here to inadequacies and that is no surprise either.

Command Facilities in Combat

Command facilities are set up for unit command depending upon the type and character of combat operations. On the division echelon they exist in the following form:

The CP
Alternate CP

Forward CP
Rear CP

Command Post

It is the main command facility and must be so sited that uninterrupted command will be guaranteed at all times. In the course of an attack it is shifted so far forward that constant unit command will be assured. It is manned by the following officers:

The CG, provided he is not forward or at the forward CP,

The chief of staff with the most important officers of his operations staff,

The political affairs deputy,

The commanders of the arms of the service and the directors of the support services and

Miscellaneous additional officers.

Alternate CP

It is set up simultaneously with the "CP" and is intended immediately after the CP has been knocked out to take over command of units involved.

Here we find the following:

The division CG's deputy,

The deputy chief of staff with some of his staff officers,

The particular deputies of the commanders of the arms of the service and of the directors of support services as well as

Additional officers.

It is practically manned by those officers who, so to speak, are in the "second link of command." The establishment of an alternate CP is one of the constant requirements in command.

Forward CP

According to Soviet requirements, the CG must be in a position from there:

To observe combat operations,

To lead the units--especially the forward echelon--in the main direction of movement and

To take action in the course of combat operations without loss of time.

Personnel staffing will be determined by the CG depending upon the situation. In the course of an attack, the forward CP is shifted frequently and those moves are ordered from topside, as happened already during World War II.

The so-called commander's OP is an element of the forward CP. It is established furthest forward and must always be manned by a staff officer. From there, the division CG must be able to observe the operations of his units in order to assure command and in order to be able personally to influence the operations of his subordinate units.

Rear Command Post

It represents the logistic CP and is used for the organization of supply functions. It is manned by the following:

The deputy for support services with his subordinate officers,

The technical equipment deputy, with his staff,

The officer for artillery ordnance,

The political affairs officer for the rear CP.

Overall, Soviet regulations for command posts and their manning constitute a solution which certainly makes sense and which is useful, a solution in line with the requirements of modern warfare--although an expensive solution at that. It will work if every officer, beyond his functions, can exercise a certain degree of initiative and sense of responsibility but also independence. From press articles of course we can tell that this is precisely where things are not what they should be.

Communications and Issuing of Orders

The previously mentioned type of plan-oriented thinking and the duty to exercise supervision call for intensive communications activities by all subordinate echelons. Basically the Soviet ground forces distinguish between written and verbal reports which are sent either as instant combat messages or as deadline reports. The deadlines for the reports are specified by higher headquarters.

Instant dispatches originate from the individual's own initiative or are forwarded in response to requirements from above. There are certain prescribed forms which contain the following points:

Confirmation of receipt of missions or their execution;

Determination of NCB weapons;

Enemy rocket units identified;

New enemy weapons or combat equipment identified;

Results of enemy action;

Miscellaneous enemy activities;

New decision by commander based on altered situation.

The reports and dispatches are supposed to be short, clear, and true; they are to be couched in simple language and they must be forwarded through the usual communications equipment or they must be delivered by messenger.

The requirement for short reports can be observed again and again in the military press. But it is always restricted by the indication to the effect that brevity obviously can be achieved only at the cost of clarity. Here we come to a characteristic Russian trait: the inclination toward epically lengthy expression, known far and wide from Russian literature, obviously makes it difficult for those people to draft their dispatches in a brief and clear manner.

Only rarely does one find short reports in military literature. On the other hand, one can often find reports from battalion commanders which run for two or three pages; they report the activities of all companies, their subordinate weapons, details on radiation exposure, weapons and equipment failures, ammunition, enemy action, requests for support and--if it does happen--a new decision or a decision other than the one that was ordered.

Every report must be signed by the commander and the chief of staff, on the army [corps] level by the CG, the chief of staff and the so-called member of the council of war, which is the name applied to the highest political affairs officer on that echelon. That is a relic dating back to the time of the Civil War.

Looking at it overall, the reports appear much too long, they cover too many subject fields and they lead us to assume that they often contain elements through which the report writer tries to cover himself. Typewriter issue is rather scant and this is why reports and orders are mostly hand-written--in calligraphy. This reporting system does not meet the modern requirements for saving time.

Orders are issued as follows:

While the commander formulates his decision, officers on his staff, under the direction of the chief of staff, keep writing the decision and draft the combat order which is issued in the form of a general order. At the same time, while the chief of staff's staff drafts the combat order,

The commanders of the arms of the service and

The directors of the support services

Plan and organize, in their fields of activity, the employment of units under their technical supervision, based on the decision of the commander, and they then formulate their orders.

In addition we also have combat directives here which contain only assignment components. Thus we have at least two levels of orders here which "supply" the units with orders. But that it is not all. On top of all that we have individual directives for:

Political activities in the course of combat,

NBC defense,

Engineer operations,

Communications activities and

Logistics.

Numerous examples from Soviet military literature evidenced the following:

Training matters and minor details are often ordered in this way, things which in themselves are quite natural, such as distance and intervals, when and where the motorized riflemen are to dismount, etc.;

Precise plans are ordered for the conduct of combat operations, as if there were no enemy who pursues the precisely opposite objectives when compared to those of the order-issuing authority (for example, mounting an attack if the enemy is on the defensive).

Looking at it overall, the order-issuing procedure seems long-drawn-out, extensively detailed, allowing hardly any leeway for the initiative and independence of subordinates. Moreover, the units must digest such a tremendous flood orders that order-issuing and reporting as a whole are bound to turn into a weak point of the Soviet ground forces.

How a Soviet Division HQ Works in Combat

The mental activity of a Soviet division CG in preparing his situation estimate and making his decision is spelled out in regulations and comprises the following individual activities:

Making the mission clear and that includes:

Grasping the "idea of the higher superior";

Sequence of employment of nuclear weapons and possibly chemical warfare weapons;

Place and role of his division;

Time calculation;

Initial measures (even before decision is made!) include the following:

Preparing the unit for the new missions,

Order to the chief of staff: organize reconnaissance,

Additional important preliminary orders.

Situation Estimate

It is similar to what know it as but to some extent also reveals different aspects. It is made up of the following points:

Enemy,

Atomic targets on enemy side,

Friendly units,

Terrain,

Environment,

Neighboring units.

The special technical advisors, such as the chief of staff, all deputies, the commanders of the various arms of the services and the directors of support services in the course of this mental effort report details which are supposed to make it easier for the commander to make his decision.

This is followed by the drafting of the decision by the commander; the decision contains essential elements of what we usually call the "plan for combat operations command."

At this point we might also mention that, on the division echelon, when it comes to preparing the situation estimate and making the decision, we are dealing almost exclusively with a decision covering the implementability of the assigned mission.

While the commander formulates his decision, his officers draft the combat order. Each combat order--and that is expressly specified in Soviet regulations--"must be considered by subordinates as a law and must be carried out unconditionally."

Overall, the process of preparing the situation estimate and making the decisions seems rather very long, stereotyped, and laborious. Here emerges Soviet-style plan-oriented thinking with its numerous negative effects, at least in the military sphere.

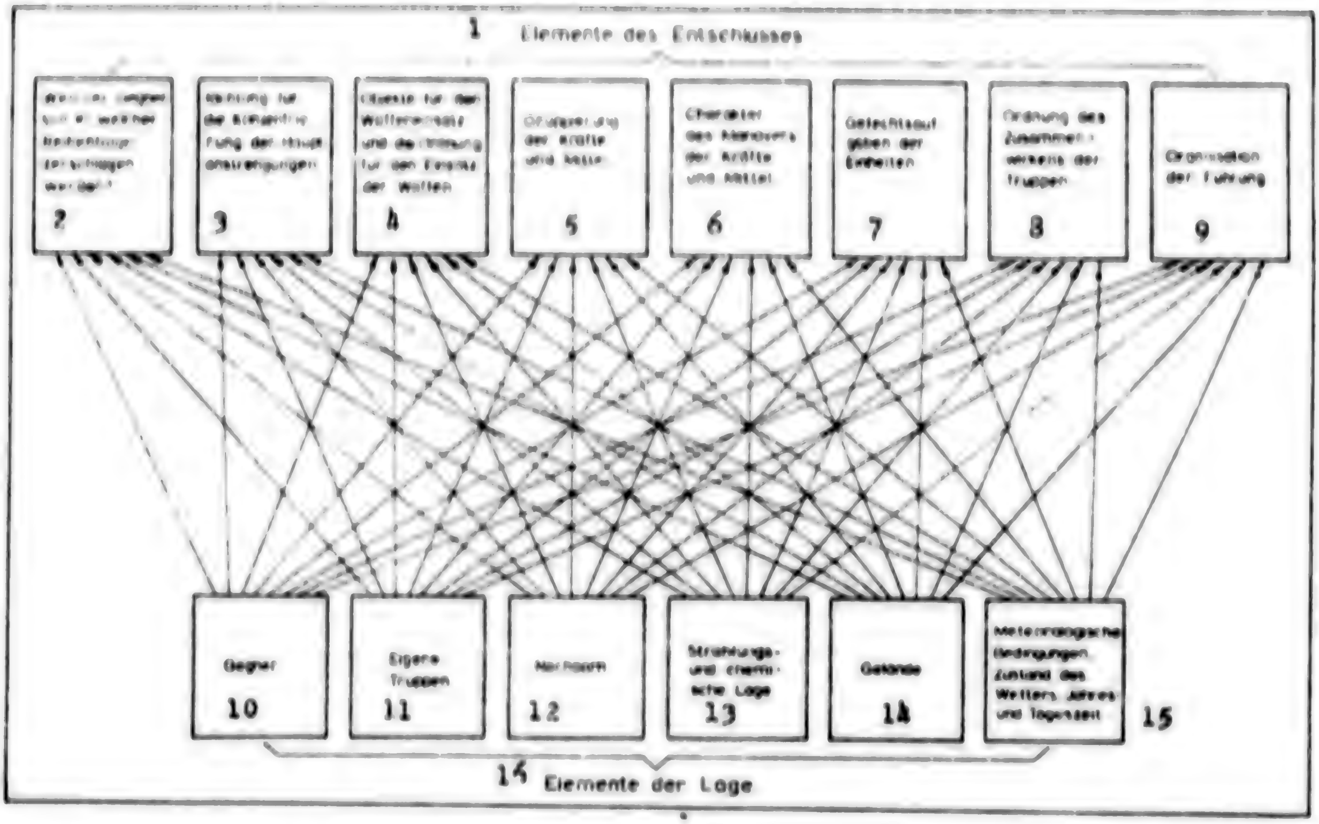
1 Elemente des Entschlusses
Welcher Gegner soll in welcher Reihenfolge zerschlagen werden?
2
Richtung für die Konzentrierung der Hauptanstrengungen
3
Objekte für den Waffeneinsatz und die Ordnung für den Einsatz der Waffen
4
Gruppierung der Kräfte und Mittel
5
Charakter des Manövers der Kräfte und Mittel
6
Gefechtsaufgaben der Einheiten
7
Ordnung des Zusammenwirkens der Truppen
8
Organisation der Führung
9
Gegner
10
Eigene Truppen
11
Nachbarn
12
Strahlungs- und chemische Lage
13
Gelände
14
Meteorologische Bedingungen, Zustand des Wetters, Jahres- und Tageszeit
15
16 Elemente der Lage

Figure 6. Situation and decision elements.
Key: 1 -- decision elements; 2 -- what enemy is supposed to be smashed in what sequence? 3 -- direction of concentration of main effort; 4 -- targets for weapons employment and arrangement of weapons employment; 5 -- grouping of personnel, equipment; 6 -- characteristic maneuver carried out by personnel and equipment; 7 -- combat missions for units; 8 -- arrangement of cooperation among units; 9 -- organization of command; 10 -- enemy; 11 -- own [friendly] units; 12 -- neighboring units; 13 -- radiation and chemical situation; 14 -- terrain; 15 -- meteorological conditions, state of weather, season and time of day; 16 -- situation elements.

Cooperation and Supervision

According to the Soviet view, "the organization and maintenance of uninterrupted cooperation is the highest duty" of every commander. The meaning behind this cooperation is expressed by the effort to achieve the optimum effectiveness of all units and formations employed on the battlefield. This cooperation represents the difficulty inherent in the practical execution of the mission.

The second-most-important task of each commander is supervision. This supervision or control is supposedly necessary for two reasons:

One must constantly check to make sure that the missions assigned by higher headquarters are carried out to the letter and

Higher headquarters must at the right time be informed on any possible inadequacies in command in order to be able to take the proper action.

Like many others, this requirement as we said earlier comes from Lenin who at the time also said that, in wartime, command without supervision is equivalent to perdition.

Exercising supervision includes visits to the units and inspections by the commander and his officers as well as an examination of critical documents.

Supervision is not supposed to deteriorate into petty bossing-around and it is not supposed to replace the command activities of subordinate commanders.

In practice however we must observe that officers fequently are restricted in terms of their activities by their superiors if supervision is excessively harsh or if control is too lax--something which supposedly is even more frequent. According to an analysis of the Soviet military press, there can be no doubt that supervision actively helps at least in heavily hindering if not "killing" initiative and independence on the lower command echelon. It is a constant source of permanent chagrin on all lower command echelons.

Summary and Analysis

Mission sphere and organizational forms give the Soviet division CG an extremely strong position but also a high responsibility. There is of course the question as to whether he can keep his head clear for the essential decisions in view of the fact that he is so heavily burdened by so many details. It is also doubtful whether the command process is so setup that optimum utilization of all command capacities is guaranteed.

Here is the analysis and evaluation of this command structure:

On the first echelon alone, a division CG has ten officers as "deputy," "commander of arm of service," or "director of support services," as shown in the diagram above (Figure 2).

Because each of these officers has his own operations staff, we have, on the second echelon, a vast number of staff officers who generally do not have any special kind of training comparable to German general staff training.

The functioning of such huge staffs can be achieved only through a gigantic measure of coordination. And that again takes time. And time expenditure--let no one forget!--in a modern combat which constantly requires a situation estimate and new decisions has become the decisive criterion to begin with. Any excessive time expenditure will impair even the best decision and the clearest order.

Moreover, Soviet unit command reveals the following weaknesses:

The full responsibility of the division CG is severely restricted by the special position of the political affairs deputy and the party and Komsomol [Communist Youth] Organization.

There is no compact logistic responsibility sphere and responsibility is in several hands.

The order-issuing system does not appear to be tight enough; the subordinate unit commanders get far too many orders and moreover those orders are too long and too confused; they contain among other things training matters and often repeat themselves.

The reporting system is laborious and the reports are much too detailed.

The duty to exercise control--ideologically justified and buttressed by Stalin's negative experiences during the first 2 years of World War II--often leads to disagreements; it encumbers initiative and independence although precisely those two things are constantly being called for. But doing without supervision would signify coming into collision with ideology--and that is impossible.

On the whole, we can detect a very serious difference as compared to our West German concepts. The development of our military command principles has, since the last century, been characterized by the effort to grant commanders on all echelons as much leeway as possible for displaying their independence but also their individual responsibility. Every order must leave the subordinates room for freedom of action but also for responsibility. The person executing an order must, according to his own situation estimate, arrive at the decision and carry out that decision. Optimum performance can be developed only by delegating responsibility.

The Soviets advocate a different view. According to their view, unit command means "constantly leading the major and minor units, coordinating their combat operations, and exercising constant and effective supervision." According to the Soviet view, the presently existing arms of the service and the special units play an ever larger role. Thus, the commanders of the arms of the service and the directors of the support services must also be involved in the process of unit command. The group of persons thus involved became bigger and bigger.

It must be observed that Soviet military command to be sure recognizes that present-day requirements for unit command are by far higher than they were ever before but that it has not created the optimum prerequisites for making it easier for the commanders to perform their difficult command activities, that is, delegating independence and responsibility downward--or, in other words--practicing a style of command which calls for an officer who will act independently within the meaning of the overall concept. On the contrary, the already complicated and cumbersome practice of unit command, is made additionally more difficult by control functions which must be carried out uninterruptedly.

If the Soviet military command is of the opinion that it is enough ceaselessly to demand initiative and independence, then it should be reminded that top performances can be achieved only if the corresponding prerequisites have been created. Here however this is not the case because there are real contradictions between the requirements, first of all, for initiative and independence, and those for uninterrupted command and constant control. Hardly anything will change here in the near future because this kind of command thinking is the product of an ideology which in many cases puts dialectics in the place of logic. It is also ideology which sets limits for the independence of the commanders and instead calls for control. And the dependence of Soviet military command thinking on ideology does not allow any deviation from these ideological principles.

When the Soviet military press here and there makes references to weaknesses in unit command, these references are undoubtedly justified, even though the weaknesses differ from one place to the next. Of course, when it comes to the substantial, ideologically-based weaknesses, nobody may rock the boat.

The need for centralizing command, on the one hand, and allowing room for initiative, on the other hand, entails a series of difficulties which cannot be overcome so easily. The above-mentioned difficulties should not persuade us to deny that the Soviet military commanders have any skill in the art of command. Critical comments from high-ranking Soviet officers tell us that an effort is being made to eliminate some of those weaknesses. Weaknesses today can be corrected tomorrow! If we do not recognize that fact, then we would be making the worst mistake we could make--and that is underestimating the potential enemy.

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AIR FORCES: COMBAT COMMANDER'S ROLE IN FLIGHT TRAINING DISCUSSED

Moscow AVIATSIYA I KOSMONAVTIKA in Russian No 7, Jul 80 pp 1-3

[Article by AF ColGen V. Andreyev, USSR Meritorious Military Pilot: "The Commander's Decision and Successful Flights"]

[Text] Each of us has frequently heard: "I have made the decision on carrying out the mission...." These are the commander's words. They are always filled with profound meaning: they vividly enuciate one of the major principles of Soviet military policy--the principle of unity of command, which, as V. I. Lenin indicated, "more than anything else guarantees the best utilization of human capabilities and an actual, not verbal, follow up on the job."

The commander's decision is the foundation of command and control in all force activities. It is also difficult to overrate its importance in organizing and executing flights. This is due to the exceptional role played by flying training in molding a fighting airman and in enhancing the combat training level of air force elements and units.

In the regiment commanded by LtCol A. Vakulenko, a communist and military pilot first class, routine flying was underway. One after the other, the missile-armed aircraft lifted off into the sky and set their course for the range or for the air-to-air combat zones. The pilots were carrying out complex combat applications. The men in the air and on the ground were functioning in a clear-cut, coordinated manner. All the equipment was working faultlessly in their hands.

This was greatly facilitated by the commander's skillful, comprehensively substantiated decision on the flights. The decision making and implementation was preceded by protracted, multi-faceted work. The evening before, in accordance with the month's schedule, the commander had considered and made provisions for the next week's flying missions and had established what would have to be done on contiguous, as well as other, flying days and nights.

During the critique of the previous day's flying, LtCol Vakulenko listened to the opinions of his deputies and the flight controller on the organization of flying shifts and the execution of timetables.

The deputy commander for political affairs reported on party political work and the deputy commander for aircraft maintenance reported on aircraft status and operations. The commander reanalyzed the squadrons' and flights' performance of the flying training schedule as well as the pilots' progress on the program.

After taking everything into consideration, LtCol Vakulenko outlined the most feasible flying option. The weather permitted VFR flying and this provided all the combat airmen an opportunity to hone their skills, work on missile launches and conduct bombing and gunnery at the range. But, the commander remembered the unreliability of the weather at this time of the year and he correctly assessed the forecast. This is why he assigned the mission for the regiment and support units to also prepare for IFR flying.

The commander's foresight had a positive effect on the day's flying. When the weather began to deteriorate, he made a timely decision to change the flight option based on the final weather recce data. So, after all the aircraft landed, he gave instructions to the pilots, the control group and maintenance and support unit supervisors on IFR missions.

They got underway and were conducted in a well-organized manner. The data from a between-flight analysis of the material from the flight recorders testified to the fact that the missions were being successfully accomplished. The flight control group headed by LtCol B. Antonov was functioning in a coordinated, clear-cut manner.

During the critique, LtCol Vakulenko pointed out that the flying goals were achieved and he rated the elements, services and support units. Then, there were detailed analyses of individual pilots' actions during missile launches, bombing, gunnery and air intercepts and of the most typical mistakes. The critique was based on data from flight recorders and squadron commanders' reports. The senior commander in attendance during the flights and critique noted the good mission organization and the skillful, well-coordinated actions of officials and the control group as well as all the airmen.

So, the transition to another, more complex flight option did not affect flying performance. LtCol Vakulenko is characterized by single-mindedness and creativity in his flight decision making and in all his activities and by a constant desire to find the key link in the chain of current problems. Unfortunately, we also encounter negative examples in our experience.

The commander of one of the units also made a decision on bombing and gunnery flights at the range. Before the decision, he analyzed the weather conditions and established mission features and procedures (the combat formation, maneuver, dive entry and recovery speeds and altitudes, etc.). It seemed like the officer had anticipated everything. One thing that he didn't take into account was lay-offs and the individual pilots' level of training for the specific aspect of combat employment. As a result, the performance of the very first sorties was poor. Upon becoming convinced of this, the commander (he was controlling the flights at the range) was forced to prohibit bombing and gunnery.

Here's another case. The flying shift had ended. At that time, the senior commander arrived at the airfield. The regimental commander reported the results. At first glance, everything looked exemplary: the number of flights, the flying time and the tactical situation. But, a more in-depth analysis clearly showed that only a small part of the flights were actually required by the pilots from the point of view of skill enhancement. The remaining flights only repeated long spent drills. So, the commander's incorrect decision and the lack of any creativity in it led to a situation where the work of a large group of men and the expenditure of resources did not have the proper effect. Moreover, now that the party has moved efficiency and superior performance--the job's ultimate results--to the front burner in everything, we will have to continually focus on these statistics and always remember to conserve resources and materials.

These examples were drawn from different incidents which occurred at different times in two units. But, the commanders' mistakes were the same: an incorrect assessment of several pilots' training level and status and of their readiness to perform the assigned exercises and transition to the next one. This should, in my opinion, receive special attention since such negligence entails an entire range of negative consequences.

So, the flight decision reflects the commander's skill in objectively evaluating all the factors and circumstances upon which successful accomplishment of the current mission depends. The officer-supervisor primarily starts with the basic principles established by the documents regulating flying training. One of the most important principles is considering the crews' actual preparation and level of training in various types of flying and flying environments.

It is important for the commander to constantly know which pilots have lost their flying skills, under what conditions and how to restore them. In this, he needs the assistance of his deputies. Specifically, the deputy regimental commander for flying training must thoroughly and skillfully take stock of the flying personnel's training status and of deadlines for testing flying, navigational and combat employment techniques. This is precisely how LtCol Vakulenko's deputy for flying training--LtCol G. Kolesnichenko, a military sniper pilot--operates.

The required information, first and foremost, on maintaining high combat readiness and carrying out the flying training schedule, is given to the commander and staff. To make an efficient, substantiated decision, it is necessary to comprehensively consider and assess weather conditions, the flight control group's training and aircraft (helicopter) status; and it is necessary to establish the number of aircraft required for the flights and to make provisions for measures to ensure that all the equipment allocated functions at maximum efficiency. In this job, everything is important; there are no trifling matters; any mistake can seriously complicate mission performance and even lead to mission disruption.

When the decision is made, the commander assigns flight planning missions to the squadrons and jobs to the support and service units; he clarifies procedures for executing preliminary preparations and special features of the forthcoming assignments. At the appointed time, the mission is assigned to all flying personnel. Constant, unremitting supervision is one of the primary conditions for successful implementation of the commander's decisions. A lack or even insignificant relaxation of supervision inevitably leads to a decline in flying efficiency and to a proforma approach--the vilest enemy of any job. A lack of supervision is a breeding ground for irresponsibility and nonperformance. To exercise effective supervision, LtCol Vakulenko properly assigns the regiment's supervisors, staff officers and support service officers.

I will also dwell on another element which is very important from the point of view of organizing and executing flights. LtCol Vakulenko, the flight controller and the regiment's supervisors, the squadron and support commanders visit the airfield at a set time on a flying day and evaluate the actual weather status and the forecast, the readiness of command and control facilities, the air situation near the airfield and the readiness of other airfields to receive aircraft; he checks to see if requisitions have been approved and if there are flight restrictions. Then, he makes his decision on weather reconnaissance and determines which flight options to implement.

When weather conditions do not permit flying to get underway within the prescribed deadline, it is very important to properly predict the development of the synoptic situation in a timely manner and, depending on this prediction, make a decision to wait for the weather to improve or to postpone flying and turn to other missions. This is also a sign of the commander's skill of foresight. It is absolutely necessary to make advance provisions for what personnel will do if they do not fly.

Leading officers systematically analyze the experience gained by senior supervisors and commanders. They are able to objectively evaluate the effectiveness of the decisions they make and, on this basis, they learn themselves and they teach their subordinates. Without this kind of daily training, the maturity, skill, confidence and ability to make the most feasible, correct decision under any conditions and on any issues do not exist, just as they do not exist without a high sense of responsibility.

Comrade L. I. Brezhnev, general secretary of the CPSU Central Committee and chairman of the USSR Supreme Soviet Presidium, points out that "'duties' and 'duty' are words with the same root. One's duty to the people--his party, official and human duty--must always be remembered." An example of this attitude toward his duty is also set by LtCol Vakulenko, a communist and military pilot first class. Industrious and mission-oriented, he always works with foresight and is interested in the new, the advanced and the promising in the evolution of military affairs and hardware. He focuses on people; he solicitously molds true fighting airmen; and he devotes a great deal of attention to training and developing squadron commanders and flight leaders. The commander is one of the regiment's best pilots; his example is followed by his subordinates. Communist Vakulenko skillfully relies on the unit's party organization and directs its activities. LtCol V. Novikov, deputy regimental commander for political affairs, and Maj V. Sharun, party committee secretary, are good party political work organizers.

The friendly, coordinated actions by the commander and regimental, staff, party and Komsomol organization supervisors are bearing fruit: based on last year's results, the unit took first place in the Air Force among sister units. It is maintaining its lead in the new training year. For selfless military work and its accomplishment of its socialist objectives for the 110th anniversary of Vladimir Il'ich Lenin's birth, the regiment commanded by LtCol Vakulenko was awarded a Lenin Certificate of Merit.

Decision making ability and a superior sense of responsibility do not come with the assignment to a position. People must be prepared for this; they must be taught continually. The ability to recognize and carefully nurture promising officers is required. For this, it is especially important to make proper use of unit and element deputy commander positions--the level where a pilot, to a significant extent, acquires the traits required by a one-man commander. LtCol Vakulenko's career development was greatly enhanced by his service as deputy regimental commander when the regiment was commanded by Col G. Shchitov--an experienced organizer and teacher.

The development of a commander's ability to think independently and to make decisions is a subject of constant concern for senior commanders. This inevitably promotes an increase in the ideological development of officers promoted to supervisory positions, enhances their flying skills, expands their strategic and tactical horizons and deepens their knowledge of aircraft, aerodynamics and tactics. Of course, we can understand the desire of certain commanders, especially junior commanders, to rely on their experienced, more thoroughly trained senior commander's opinion in solving particular problems. And, there is nothing wrong with the fact that subordinates turn to him for advice and assistance after they encounter certain difficulties. This is a recognition of his authority and a vote of confidence in him.

But, we should not encourage such requests on all occasions since this does, on the one hand, give rise to inertia and, on the other hand, it reduces responsibility. In addition, the senior commander does not always have the same basic information at his disposal that his subordinate commander has, the information required for a proper decision. Finally, right now, it is not that difficult to provide instructions and suggest a solution. But, in a combat environment, this opportunity will be rare. And, after all, we are preparing ourselves for combat. As pointed out by MSU D. F. Ustinov, member of the CPSU Central Committee Politburo and USSR Minister of Defense: "Being in a state of constant combat readiness which will assure an immediate setback to any aggressor is the most important obligation of the Armed Forces; it is their sacred duty to the people." The ability to work out the best, most feasible solution is one of the methods of training the commander for command and control in actual combat.

It would seem proper and advisable for a commander to tactfully but firmly advise his subordinate to make a decision on his own in response to a question of "what should I do?" in a relatively simple situation. Even if the subordinate makes a request on a more difficult problem, you still should not immediately foist your advice or your decision on him but first ask for his proposals. This is a sign of the commander's respectful attitude toward his subordinate's opinion and, at the same time, it trains him to work out a solution on his own and to comprehensively think it through and justify it and it develops his confidence in his own abilities.

The commander's decision making process is complex and multi-faceted. In order to issue intelligent orders, it is necessary to take a lot into account, weigh all the pros and cons and determine everything that will have an effect on the decision and how it will affect the performance of flying training missions and specific assignments. The commander himself must have an outstanding knowledge of and deep respect for flying principles. Then, his decision will not only have the validity of an order but will also have a positive impact on the men's morale and will develop his subordinates' ability to expedite big and little jobs. And, this contains a reliable pledge of a steady increase in constant combat readiness and an increase in air unit combat capabilities, i.e., the accomplishment of the missions assigned to the Air Force by the party and government.

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AIR FORCES: IMPORTANCE OF PHYSICAL TRAINING STRESSED

Moscow AVIATSIYA I KOSMONAVTIKA in Russian No 7, Jul 80 pp 5-7

[Article by Military Pilot First Class MajGen Yu. Nastenko and LtCol V. Skovorodnikov: "Strong and Able--Bold in Battle"]

[Text] The aircraft was making its landing approach. The pilot put the gear handle in down but only two green lights lit up on the instrument panel instead of three. The right gear strut had not extended. He would have to make another circuit. The attempt to extend the gear in the emergency mode was to no avail--the anticipated signal still did not arrive. The pilot did not lose his head. His voice rang out confidently, although somewhat sharper than usual.

The officer requested permission to land on the main wheel and the nose wheel. Nobody had ever had to land this type of aircraft on two wheels and, naturally, the flight controller suggested that the pilot climb and eject. However, the latter stood his ground and skillfully landed the aircraft at the airfield. In taking this risk, Capt (now LtCol) V. Usov saved an expensive piece of equipment.

When asked what he felt like after deciding on an emergency landing, the pilot responded:

"Totally confident of success. I had enough flying experience and strong nerves from sports, which has always been and still is my reliable assistant on the ground and in the sky."

It should be pointed out that LtCol Usov is an all-round sportsman. He plays a good game of soccer and basketball, is an excellent swimmer and confidently works out with special-purpose equipment. He still has not given up sports which have helped him develop his willpower, stamina, endurance and other necessary traits.

Flying in modern aircraft and helicopters and carrying out highly complex operational missions are linked to a great deal of psychological, physical and emotional stress. In addition, the monotonous, cyclical nature of the job (ground preparations and flying day in and day out) puts a constant stress on the airmen's psyches and this undoubtedly has an effect on both their emotions and efficiency. But, this is not all. The nature of flying today unfortunately leads to a disruption of the regimen of motor activity; without regular physical training and active relaxation, this disruption leads to arteriosclerosis and overweight which, at times, causes flying personnel to be grounded for health reasons.

Nevertheless, aviation continues to evolve and the aircraft, as before, will be flown by a man who must be continually prepared for the greatest mental stress and be able to control himself in any situation since, as shown by practice, the pilot's personal traits determine successful performance of an operational mission. The problem of moral and psychological training for fighting airmen is linked to the search for ways and methods of enhancing their on-the-job stability. It is being studied by specialist fields. The ultimate result of their quest will be enhanced combat readiness of flying personnel and increased flying safety.

As is well known, all psychological traits are divided into three basic groups: volitional, vocational-psychological and socio-psychological. While physical training does not play a decisive role in the development of socio-psychological traits, it is of top priority importance in forming the psychological traits in the other two groups.

Singlemindedness, boldness and decisiveness, initiative and resourcefulness, persistence and doggedness, endurance and self-control, courage and discipline are the most important traits of a fighting airman. Without them, no pilot is able to perform a difficult flying assignment and even less able to creditably come out of an emergency. The stability and refinement of these traits depend upon the individual's ideological development, world outlook and motiviation.

Physical training presents a good opportunity for the serviceman to display the most diverse volitional traits and to mold and train them. However, this requires a desire and a sense of purpose. Once we heard the following question: "Why should I, a pilot first class and an adult develop my will power when it was done at school?"

Why in fact? Perhaps,this should not be done? Let's analyze it.

The individual's volitional traits are instilled in childhood; they gradually develop and are refined throughout his entire life. In one way or another, they are molded by parents, teachers and the group. Moreover, having made up your mind, you can develop the necessary volitional traits in yourself or, to the contrary, having become lax, you can lose them. You can repeat to yourself: "I have will power," and that's that. But, without constant training and control of each of your acts and deeds, you will not build your character. Let's cite a simple example.

Without fear or hesitation, everybody will walk across a floor board in the floor. But, if we take a single board just as wide and raise it to a height of three meters, the number of people who want to walk across it will noticeably decline. And, if we place a board twice as wide across a precipece, only courageous souls will walk across it. This is why it is not by accident that walking across a narrow support at a significant hieght is included in the physical training exercises to develop courage.

Endurance exercises are effective means for developing persistence and doggedness: cross country races and forced marches, long and medium distance runs, skiing, long distance swimming, walking tours and mountain climbing. By participating in these events, you will have to overcome fatigue and withstand a great deal of physical and neuro-psychological stress. But, it must be pointed out that pilots reluctantly run cross country races. Moreover, you can frequently hear their heckling comments: "I'm not a motorized rifleman." But, the fact of the matter is that pilots (and technicians,too) absolutely must run 3 km cross country races, make 6-km forced marches and run the obstacle course just because they are not motorized riflemen or paratroopers who go dozens of kilometers during their combat training.

There were many cases in the history of the Great Patriotic War where our pilots who were shot down over enemy territory and returning to their own units crossed large distances, rivers and other obstacles, were able to make improvised shelters and search for food and water. Their stamina and confidence was developed by the physical training they engaged in.

Initiative and resourcefullness are also developed by sports, especially basketball and handball where the rapidly changing situation and the constant one-on-one play force sportsmen to display these traits. And, intramural contests and responsibility for the ultimate result of a meet strengthen endurance and self-control.

Volitional traits can be developed by selecting special exercises and groups of exercises which should be included in the individual training plan. Genral exercises are contained in the new physical training program for AF personnel.

I would like to focus on parachuting,which actively develops many volitional traits. Systematic, parachute training jumps, especially sky-diving, develop the pilot's ability to instantaneously assess the situation, his sense of timing and height and proper actions due to a stable mental attitude. Their composure and decisiveness helped Maj B. Silkin and Capt V. Lamzin extricate themselves from a difficult airborne situation in a praiseworthy manner. Both pilots have a second class rating in parachuting.

Discipline merits a special discussion. It is indisputably a volitional trait and it appears in the individual's ability to subordinate his behavior to the requirements of regulations and Soviet laws and to the interests of the group. During physical training, the skillful organization of exercises and contests and the instructor's high standards develop discipline. And, the instructors who believe their basic obligation is to toss the ball into the game and then idly watch what happens are wrong. It is always necessary to pursue a goal and achieve results.

Emotional stability and attention, as the pilots themselves point out, occupy the leading place among all flying traits. No matter what a person does, he will suffer the consequences of his work. Joy, grief, excitement, tension, a lack of confidence, rage, fear, panic, indifference--all of these are manifestations of a person's feelings in a specific situation, during his contact with the surrounding world. The individual's emotional stability is characterized by his ability to suppress his emotions in a difficult environment, emotions which may hinder successful performance of his assigned activities. And, we can boldly state that emotional stability determines productivity at work in general and, specifically, while flying. This is why it is necessary to maintain and observe a rational, healthy, psychological regimen. Again, systematic physical training helps here. Participation in sporting events, especially games, develops the individual's emotional enthusiasm and this has a favorable effect on his neurological agility and it energizes his thinking processes and his vocational motor skills. Sports are not only physical health but also mental health. This naturally requires energy. And, it is sports that are the primary source of the individual's vital energy.

Difficult flying assignments undoubtedly have a very strong effect on the pilot's mental attitude and they tire him out. Therefore, it is very important for commanders, flight surgeons and physical training and sports specialists to immediately organize post-flight outdoor games but with simplified rules and not at a competitive pace. Walks in the woods and fishing are also good for relieving neuro-emotional tension. At least once a week, it would be advisable to visit the steam bath and get a massage.

Physical training plays an important role in the formation and refinement of the pilot's superior psychological traits. And, it is an integral part of the comprehensive system for molding a fighting airman. Consequently, it is necessary to pay very serious attention to general physical training and to hold organized exercises 2-3 times per week. Each session should include special exercises or groups of exercises to develop volitional traits. Daily, individual physical training in the morning for 20-30 minutes in the fresh air is mandatory.

It is necessary to increase medical supervision of physical training for flying personnel and to continually upgrade sports facilities. The goal of these measures is to enhance the combat readiness of flying personnel and to develop bold, fit and psychologically stable combat airmen.

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AIR FORCES: COMMANDER AND POLITICAL OFFICER COOPERATION DISCUSSED

Moscow AVIATSIYA I KOSMONAVTIKA in Russian No 7, Jul 80, pp 6-7

[Article by Maj A. Onishchenko, military pilot first class: "This Is Just the Beginning"]

[Text] The work day was over. After completing their preparations for tomorrow's flights, the pilots dispersed to their homes.

Against the background of the evening dusk, somebody's silhouette was outlined in the hall window. Coming closer, LtCol G. Nikitin recognized Maj V. Lobanov. The officer was thoughtfully looking at the lights of the base.

"What's the matter, Viktor Semenovich? Are you sad?" he asked. "Or aren't you happy with your assignment?"

"Oh no, everything's okay," the major turned around. "It's just so sudden. And, besides, it is not a run-of-the-mill squadron."

"Well, you will be talking to Maj Anisovich. He has been in the squadron for a long time; he knows the men well and he knows each person's strengths and weaknesses. The fact that the unit has invariably been among the outstanding units for dozens of years is to his credit. With the help of your political officer, you will quickly be accepted by the group."

This conversation took place the day Maj Lobanov was assigned as squadron commander. Since then, a lot of time has passed. As before, the unit is firmly maintaining its leading position and the professional expertise of the flying personnel, engineers and technicians grows with each day. This means that Maj Lobanov was able to find the correct approach to the men and they trusted him and acknowledged his authority. All of this promoted the group's productive activity.

Upon taking command of the outstanding unit, Maj Lobanov began by studying his subordinates. It seemed like the rhythm of work in the squadron was fine tuned. The airmen jealously guarded their unit's traditions and were concerned about the unit's status. But, Maj Lobanov knew very well that things do not stand still and that the successes achieved were not the limit. Moreover, he knew that if you were content, there would inevitably be a slump. This could not be permitted.

While carefully analyzing the results of the flying shifts, the new squadron commander noticed that even the leading unit had unused slack, fertile ground for creative, mission-oriented work. Take, for example, putting the squadron on an alert footing. The personnel were within the perscribed norms but time was breathing down their neck, as the saying goes.

At a meeting with his deputies, Maj Lobanov shared his observations. The officers were interested. They also expressed their ideas on using hidden slack.

"Let's bring this issue up at the party meeting. Let's hear the opinions of communists," suggested Maj Anisovich.

At the meeting, it turned out that not only the commander and his deputies, but also many officers and warrant officers, had doubts about the propriety of the established procedures for putting the squadron on an alert footing. After all, there had been a change in aircraft but the process of preparing the aircraft and armament remained the same. The normal rhythm of work after the signal to assemble would have to be changed. The communists suggested, for example, that not all the squadron aircraft be prepared for a sortie at the same time but by flights. Once a flight was prepared, the pilots would take their places in the cockpits while the specialists went to another flight. Another route was chosen for bringing up the weapons load: a shorter and safer one. Tech Svc Capt P. Aksenov and Tech Svc SrLt V. Kasheta suggested streamlining the ammunition transporters and methods for suspending weapons loads on the fighters. After the airmen's suggestions were classified and fleshed out, the squadron command element drew up a concrete plan of action for putting the unit on an alert footing. It was approved by the commander.

The very first training session demonstrated the indisputable advantages of the innovations. They saved valuable time and the entire aircraft sortie preparation cycle was smoother. All of this was completely borne out during the IG inspection.

Of course, it was not easy for Maj Lobanov. But, he had help from his senior comrades, to whom he turned for assistance, and from his job experience as party organization secretary and as squadron executive officer. And, there was also a continuing search for new advanced methods for training and educating his subordinates.

At a meeting of supervisory personnel, party activists and Komsomol activists, Maj Lobanov thoroughly discussed the unit situation and the basic thrusts of their work. They began with an analysis of the flying personnel's training level; after that, they outlined corrective measures for the gaps which had appeared in certain preparations. Special attention was focused on improving the instructors' teaching skills.

Capt M. Vershilis, the party organization secretary, set up an exchange of experience among flight commanders. One of the regiment's best specialists in teaching methods, Maj A. Kosenko, told them how he organized work for his subordinates and how he tried to achieve a situation where each pilot would carry out his flying assignments in an outstanding manner. At this time, every problem area was important. During the final phase of the work plan, they conducted a training session on putting the squadron on an alert footing while timing the crews' actions in taxiing out from the hardstands. The results were gratifying.

During the advance preparations, the pilots simulated their missions with options at various ranges from their home airfield and from other airfields; they made estimates for airborne retargeting. It was remarkable that Maj Lobanov assigned these formulations to rank-and-file pilots under the supervision of their flight commanders. This made it possible for each fighting airman to show his initiative and, in the final analysis, to select the best option.

There was an increase in the work of flight party organizations. For example, based on Maj A. Anisovich's advice, the communists of one of the flights discussed officer A. Yakovlev's conduct; the squadron commander had grounded him for slipshod sortie preparations.

This experience was also used by other units. However, things did not turn out faultlessly. Giving the officers a hearing at party or Komsomol bureau meetings frequently looked more like a blow-up with reprimands than a discussion among comrades.

Maj Lobanov, Maj Anisovich and the party activists noticed this in time and did everything required to help each individual, explain his mistakes to him and show him what was primary and what was secondary during a particular phase.

The preparations for the IG inspection were consummated by aerial target practice. The squadron pilots properly handled their assigned mission. But, unfortunately, there were also disappointing frustrations. Capt S. Romanov's flight did not completely carry out its assignment and SrLt L. Verpatov was not able to hit the target. "What did we overlook? What didn't we teach them?" The commander and political officer turned it over in their minds.

After analyzing the material from the flight recorders and after talking to Verpatov, Maj Lobanov concluded that the pilot had operated the gun controls in a slipshod manner during the closure phase and that this resulted from incomplete preflight preparations. The squadron commander ordered the senior lieutenant to prepare a critique of this flight himself and to tell his comrades how he carried out the assignment from take off to landing; he suggested what he should focus on during his analysis. This kind of critique was useful. The pilots vividly saw where and how trouble could crop up. LtCols V. Zharov and D. Karmanov held supplementary lessons on all-altitude target intercepts and on range operations.

All the same, the signal to assemble, which announced the beginning of the IG inspection, came unexpectedly. When the squadron's flying personnel arrived at the hardstand, there was already a flurry of activity there. Under the supervision of the Equipment Maintenance Unit flight chiefs, the technicians and mechanics were getting the aircraft ready for their sorties. After receiving their instructions, the pilots also got the word. Many of them had mastered related specialties and were able to successfully stand in for the armament, radio, electronics and aircraft equipment specialists. Because of this assistance, the first to complete the entire system of operations on the aircraft were Tech Svc SrLts V. Yunosh, A. Kalugin, V. Cherezov and WO V. Mashinka. The aircraft specialists immediately began to help the other crews. Several minutes later, the squadron's complete complement left to carry out its combat training mission.

Maj Lobanov glanced over the combat formation. His subordinates were following the leader in a precision formation at assigned intervals and ranges. For 10 years, the squadron had had the title of outstanding squadron; for 10 years, its personnel have worked without any flying accidents. Isn't this the best description of a fighting collective? And, pride that he was the one trusted to command this unit filled the commander's heart.

Maj Lobanov's squadron was assigned a mission to destroy ground-based targets detected by reconnaissance. The weather at the range was adverse; the targets were covered by a strong air defense system. Maneuvering at low altitutes, the pilots went under the eyes of the "enemy" radar and accurately delivered their strikes. They reconfirmed the unit's superior fighting ability.

MSU K. Moskalenko, who was present at these exercises, gave a high rating to the pilots' preparations and presented engraved wrist watches to many of them.

This year, the Red Banner Fighter Regiment, which includes Maj Lobanov's squadron, celebrates its 40th anniversary. Veterans are visiting the airmen: pilots and technicians, mechanics and engine mechanics who won glory for their regiment in the war's fiery skies. Their successors are not ashamed to look the front-line airmen in the eyes. They have not tarnished the regiment's good name; they are true to its famous combat traditions and they are increasing them.

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AIR FORCES: METHODS OF TRAINING JUNIOR OFFICERS

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[Article by AF LtGen V. Ezhkov, USSR Meritorious Military Pilot and AF Chief of Personnel: "Fusion of Youth and Expertise"]

[Text] Soviet career military personnel are not just the main link in the command and control system, they are also active bearers of the Communist Party's policies in the Armed Forces. An indispensible condition for the success of their activities is a continual improvement in ideological development, organizational capabilities and professional expertise. This is brought about by the special role of career commanders, political officers and engineers in accomplishing combat training missions and by the continually increasing requirements levied on them as leaders of the entire process of training and indoctrination.

The army and navy are receiving well-educated people. Within a short period of time, they are able to master complex equipment and acquire the skills for maintaining and employing it. This not only makes it possible for the officer to successfully accomplish the most difficult missions, it also raises the standards for his individual training. As a leader, he can maintain and consolidate his authority if he sets the example on and off duty for his subordinates as their senior. Command qualities do not occur on their own; they are not issued to the officer with his diploma upon graduation from a military educational institution. The lofty qualities of a modern military leader are molded by the wholesome effect of the entire Soviet social system's structure, the socialist way of life and military service. They are inculcated by the aggressive, multi-faceted and goal-directed ideological activities carried on by the Communist Party in the Armed Forces.

The 25th CPSU Congress pointed out the main road which, when followed, can and should guarantee an additional improvement in the effectiveness of all ideological activities. It is a comprehensive approach toward organizing all indoctrination. This approach is the most responsive to the nature of a socialist society, the nature of the goals being accomplished during the contemporary stage of communist construction and the goals of the party's program in developing the whole-man concept. During the time which has passed since the 25th CPSU Congress, the party Central Committee has made a number of important decisions on ideological issues, including the decree "On Additional Improvement in Ideological and Political Indoctrination."

The experience gained in many AF units and military educational institutions attests to the fact that the effectiveness of ideological and political indoctrination is higher where they steadfastly ensure an interrelationship between an integration of ideological, political, ethical, work, military, legal and aesthetic indoctrination and where they consider the special features of the various categories of servicemen, the nature of their service and the specifics for carrying out operational training missions.

This experience also teaches us that the process of training and indoctrinating AF defenders of the homeland is unthinkable without clear-cut coordination of two interrelated aspects--arming career military personnel with a certain amount of academic and political knowledge and transforming this knowledge into convictions, inner behavioral motivation for the officers and practical actions that correspond to the standards of communist morality and military duty. In other words, in spite of the specific nature, the various thrusts of a comprehensive approach are united by a common mission of fusing knowledge, convictions and practical actions in the airmen.

A special role in this important job is allocated to the indoctrination of junior career personnel whose life experience, professional experience and ideological development do not always completely correspond to the official position they occupy or to the scope of their job responsibilities. The inculcation of high moral, psychological and fighting traits in junior officers is an important task which requires the focused attention of commanders, political elements, party and Komsomol organizations. At present, when there has been a sharp increase in the performance standards for the airmen's operational training and when the issues of training, indoctrination and of moral and psychological development have closely merged into an inseparable whole, there is undoubtedly a special role for the commander. This role is primarily determined by the fact that it is the commander who, by relying on the party organization, arms his subordinates with professional knowledge and skills, molds a Marxist-Leninish outlook, a high sense of awareness and communist conviction in them and produces and develops their military expertise, physical stamina, determination, courage and bravery during training and indoctrination. Together with political officers and party activists, he strives for a situation where political and military indoctrination have a goal-directed nature and prepare the airmen for skillful, decisive, bold actions in any technical environment.

The commander is the leader who is continually in his personnel's center of attention. He is not only in charge of the military group but he also arrange all its affairs. The commander's courage, composure, dignity and honor, multiplied by his experience and teaching skill, set, as a rule, a good example to be copied.

At the same time, the methodically erudite, intelligent communist-leader not only absorbs the experience of his seniors himself but also teaches it to his subordinate junior commanders and indoctrinates them based on famous revolutionary, combat and work traditions. For example, the flight leader prepares his wingman for combat while simultaneously learning from the experience of his flight leader, squadron commander and regimental commander. This is the immutable law for training and indoctrinating modern fighting airmen, a law tested in the fiery skies of war.

The importance of skillfully integrating junior career personnel's youth and energy with the rich experience of the older generation's expertise to accomplish any mission was pointed out to us by the party. During the presentation of his Lenin Prize for the books "Malaya zemlya," "Rebirth" and "Virgin Lands," Comrade L. I. Brezhnev, general secretary of the CPSU Central Committee and chairman of the USSR Supreme Soviet Presidium, said: "A sense of continuity in our concerns will help us gain a better understanding of today's tasks and of the concerns which our people can anticipate tomorrow."

This is why meetings between leadership personnel and senior officers and talks by commanders and officers in charge with worthwhile experience in training and indoctrinating subordinates deserve widespread dissemination. But, all of this must unquestionably be supplemented by the immediate supervisors' thoughtful, daily individual work with each junior airman and by giving him concrete assistance in increasing his level of theoretical ideological development, in mastering the principles of military teaching methods and psychology and in acquiring and enhancing the skills of working with people.

Summer combat training is in full swing in AF units. The airmen are steadfastly enhancing their flying and tactical expertise and improving their ideological, psychological and physical development. At the ranges and on long-range flights, in air-to-air combat and intercepts, aircraft commanders, flight leaders and detachment commanders are in the lead--they are the airmen's immediate teachers and mentors, their leaders and instructors.

The modern air force flight of operational aircraft and helicopters is a flying element with a great deal of striking power, high mobility and maneuverability. It is able to carry out the most diverse missions in conjunction with land force elements, both as part of a squadron and independently. Basically, junior officers stand duty in the flights. Therefore, the commander is always faced with the task of mobilizing each person's efforts to further increase the element's operational readiness and to guarantee a high level of vigilance, flying safety, firm military discipline and good organization. It is completely understandable that such a group should be headed by a tactically intelligent commander, a highly qualified pilot, a decisive and strong willed fighting airman.

This is precisely the kind of commander Capt V. Vladarchuk, a military pilot first class, proved himself to be while in charge of a flight for a long time. He skillfully relied on assistance from the communists and Komsomol members and directed the group's efforts toward successful accomplishment of their assigned missions. The experienced communist-leader devoted special attention to training junior pilots; he continually taught them independence and the ability to analyze their actions and to make intelligent, volitional decisions in any situation.

Once, during a tactical flying exercise, Vladarchuk's flight encountered a strong, well-trained, numerically superior "enemy." They engaged in a formation dog fight. Although the opposing fighters employed various attack options, Vladarchuk's pilots acted with skill, initiative and decisiveness. During one of the battle's tense moments, the leader of the second element, SrLt V. Prokhorov, noticed an "enemy" evasive maneuver. The pilot was able to guess their plan in good time and he made an intelligent decision--to wait for the most suitable time to attack. His hunch was right. When the fighters tried to attack Vladarchuk's element, the appearance of Prokhorov and his wingman was a surprise for them....

This dog fight was won due to the young second element leader's sharpness and initiative. SrLt Prokhorov demonstrated boldness, decisiveness and tactical skill in the air. The decision he made to attack the "enemy" in spite of his plan was successful.

Little by little, Prokhorov's commanders and political officers had developed his command skills and facilitated their improvement. A considerable amount of effort was also devoted to the pilot's training and indoctrination by Capt Vladarchuk. His seniors' keen, attentive attitude toward the airman's development had their impact. Within a short period of time, Prokhorov had completed the training program for a military pilot second class. Now, he is a flight commander himself, a first class military pilot; he trained and comprehensively prepared his wingman, junior officer L. Khalfin, for combat.

There are a lot of commanders like this in the Air Force. During tactical flying exercises, they lead their formations by skillfully controlling their wingmen's actions; they set the example for their subordinates, examples of a high degree of aggressiveness and initiative in combat, high-principled determination, ethical purity and accurate execution of flying rules. The junior pilots learn the tactics for unbeatable attacks against airborne and ground-based targets from them; they assimilate the flying style of their first teachers.

The flight commander is the pilot's first mentor and his ability to discuss and, most importantly, demonstrate any component of flight will determine the future development of an air force defender of the homeland and the development in him of the traits required by a future commander. Every year, this position is filled by a lot of junior officers, energetic officers possessing in-depth academic knowledge and excellent flying qualifications. But, they do not all possess the firm skills of a commander and instructor. At times, they lack a demanding attitude and the ability to rely on the party and Komsomol organizations in indoctrination and the ability to direct activities toward accomplishment of the main operational training missions. These growing pains can be overcome if the regiment and squadron have well-organized party political and flying methods activities and if a comprehensive party concern is shown for the command development of junior officers.

This is why when candidates for flight and detachment commanders are selected today, they cannot focus just on the level of flying training alone, although this is a factor and should be the decisive one. No matter how good the training level is, it alone is not enough at present.

The first steps in the command field are not easy ones. At this point, it is very important to provide support for the junior commander. Help him assimilate firm teaching skills and the ability to analyze a flight using the flight recorders. Moreover, it is impermissible both to leave him on his own and to nit-pick him. However, sometimes we observe the following picture: senior supervisors almost completely undermine the flight commander by providing airborne training for his subordinate pilot. Meanwhile, he loses confidence in himself and does not completely display his teaching skills. The officer should not be undermined; everything possible should be done to help the junior commander master teaching skills in a timely manner. This is the true guarantee for his professional growth.

Work experience with junior career command personnel convincingly shows that the enhancement of command skills is facilitated by training methods classes at the unit and large unit level, by a widespread exchange of experience between flight commanders, by command flights and by set-piece training. Based on the experience of leading units' ideological indoctrination activities, junior commanders study methods for organizing and conducting various activities, an individual approach to the men, the establishment of a healthy group atmosphere and an atmosphere of competition during operational training. In a friendly, cohesive group where an atmosphere of respect and high standards for each other has been established and where devotion to the job, high principles, honor and truth are valued more than anything else, the airmen quickly mature, develop ideologically and become highly qualified specialists.

The inculcation of the traits which the contemporary air force commander must possess begins when the lieutenants arrive in the unit. Junior officer interviews are one of the basic methods for studying personnel. During these interviews in a relaxed environment, problems are cleared up, problems which can't be reflected in personnel folders and other personnel documents. At this point, it is important to listen to the officers and, as much as possible, to satisfy their requests, especially domestic ones. As a rule, these concern various aspects of housing and off-duty services, finding work for dependents, etc.

However, the graduates' reception is just the first step. The next phase is bringing them on line. Of no small importance during this phase is the assignment of junior officers to elements and crews after they have taken the exams according to the specific curriculum. In addition, it is desirable to consider not only vacant positions but also various morale aspects. For example, it would be advisable to assign a junior fighter pilot to a flight with an experienced, well-trained--in the sense of teaching--flight leader. It would also not be bad to think about having his aircraft serviced by an older aircraft technician who is cool-headed.

Nevertheless, even the best teachers will not be able to achieve good results if the junior officer himself does not display the requisite desire to improve. Practical experience confirmed long ago that the developmental process proceeds more successfully for those officers who have clear personal goals and who continually and steadfastly improve their level of progress and professional expertise. Unfortunately, once in a while, there are still individual junior officers who fear adversity.

The inculcation of strong will power and moral stability in junior officers during their initial period of service, in our opinion, is a significant task facing commanders, political officers, personnel agencies, party and Komsomol organizations. Junior officer councels can help them a great deal. They devote a great deal of attention to popularizing combat traditions and the experience of the best commanders. Based on assignments from the councels, lieutenants deliver reports, abstracts and reviews of military journals. The experience gained by junior officers during their flights and during tactical flying exercises, their boldness, decisiveness and initiative are disseminated in every way possible within the units.

MSU D. F. Ustinov, USSR Minister of Defense, requires that the subject matter, quality and effectiveness of ideological and political indoctrination activities with junior officers completely correspond to the level of our Armed Forces development and to the standards which our party sets for Soviet young people's communist indoctrination. On this basis, our commanders, political officers, staffs, party and Komsomol organizations are doing everything possible so that junior air force personnel will have all the traits required of a contemporary leader.

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AIR FORCES: PSYCHOPHYSIOLOGICAL FACTORS IN FLIGHT TRAINING

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[Article by Med Svc LtGen N. Rudnyy, MD.: "Man and Modern Flight"]

[Text] 3. Responsibility

This incident occurred in the Western Front. On the day set for a large Soviet offensive, fog covered our airfield. The ground attack division commander, Col V. Smolovik, sent two crews out on weather reconnaissance. One of them returned shortly afterwards. The pilot reported that it was not possible to ascertain the boundaries of the fog due to poor visibility. But, the second crew pierced the clouds, found a "window" and thoroughly reconnoitered the weather over friendly territory and over the FEBA. By skillful maneuvering, the aircraft commander, HSU Capt A. Vasil'yev, evaded the anti-aircraft fire and, on his return trip, avoided an encounter with enemy fighters. After landing, he reported to the division commander that there was reason to believe the fog would disperse in approximately an hour and and there would be good flying weather.

Capt Vasil'yev had an extremely conscientious attitude toward the weather reconnaissance flight. He recognized that if the air force did not support our advancing units, it would severely hamper our forces operations in breaking through a powerful enemy defensive zone. His profound understanding of his personal responsibility for the mission's result was the primary stimulus that enabled the aircraft commander to take a calculated risk and honorably carry out the assignment.

During the war, there were various criteria of a pilot's dependability and maturity. They included his length of flying service, number of combat sorties and number of enemy aircraft shot down, flying time, experience in carrying out difficult assignments, types of aircraft he was proficient in.... Each of these statistics was somewhat descriptive of the pilot and was important in evaluating his readiness to accomplish a particular mission.

These criteria, naturally considering peacetime training conditions, exist today. They have been supplemented by the pilot's IFR and VFR hours. However, there are also other factors that it is difficult or even impossible to express in numbers. It goes without saying that an experienced pilot is disciplined, strictly carries out all the requirements in documents regulating flying activity and complies with the rules for operating aircraft equipment and armament. He has an implicit, permanent inner need to creatively think over his flying assignment and to prepare for it in such a manner that there is no confusion. Such a pilot is an alert professional. He continually critiques his own readiness for a flight or for a particular type of combat application. In fact, he only gets in the aircraft when he can tell himself "I'm ready, let's go."

Of major importance in evaluating a pilot's professional development are: a high degree of self-discipline, an in-depth understanding of the special features of his job and a responsibility for the flight's successful outcome. Based on practical experience, it is well known that maximum efficiency sets in rather shortly after getting into the work rhythm and it is characterized by stable figures. To mobilize the body's behavioral resources for a forthcoming flight, it is important to attain inner composure and concentration ahead of time. This makes all the pilot's actions accurate and sound.

It was proven long ago that flying does not forgive anybody's poor knowledge, insufficiently sound skills or low standards. Flying experience provides numerous examples where pilots have made flagrant errors in the air or created flying safety hazards due to poor training, poor preparations or self reliance.

At the outset of its development, the aircraft was relatively simple and the person flying it had a large reserve of physical and mental capability. At that time, psychophysiological factors did not play a noticeable role. But, at the present time, the complexity of the missions being accomplished and of the flying environment and the increase in the number of operations in controlling and flying an aircraft have led to an increase in sensory-motor stress.

In molding the modern pilot's requisite traits, everything is important: rational planning of the flying day, setting the number of flights, the sequence for performing flights, a well-founded increase in stress and the development of a positive psychological attitude toward flying. Both cadets and junior pilots may experience various problems. Therefore, it is very important to help them acquire confidence in their power in time; for this purpose, they are assigned feasible missions which meet their level of experience. Otherwise, frustration may ensue, frustration which will undermine their faith in their power and will elicit a fear of flying.

In any adverse situation which arises while flying, the individual's reaction is greatly dependent upon his psychological traits. Here is another front line episode. On his fifth combat sortie, Lt A. Karlov a junior pilot, took part in a fierce formation fight with enemy fighters. Although our pilots did not suffer any losses in this engagement, Karlov was left with a feeling of dismay after the sortie. This upset the pilot a great deal but he was not able to do anything about it. Not without hesitation, Karlov decided to report his condition to the regimental commander. HSU Maj V. Karyakin immediately understood what was going on in his subordinate's mind. He found the necessary words and told him how he himself began his fighting career.

"Cast all these doubts out of your head! Go and fly!" said the commander in conclusion. He knew that the lieutenant would definitely get over the barrier of timidity, just as he himself had once gotten over it. At those times, it is very important to support the junior officer and give him a charge of confidence and optimism.

The individual's psychophysiological capabilities fluctuate depending on his physical and psychological condition. Consequently, successful accomplishment of the flying assignment is directly dependent upon the pilot's individual traits which require appropriate consideration and an appropriate approach.

Once, during a landing approach, two fighters got dangerously close. Instead of sending the wingman on a second pass, officer N. Pechenov, the flight controller, began to read the riot act to both pilots over the radio; this aggravated the situation in the air even more. Fortunately, everything turned out okay.

During the flight critique, the pilots got it again. The flight controller had not analyzed the situation and had not determined why the wingman had reduced the distance between the aircraft. Officer Pechenov was obviously lacking in teaching skills.

Maj N. Kiselev, a squadron commander, acted differently. There were two junior pilots in his unit who were having trouble with instrument landing approaches. Neither had a great deal of IFR flying time. Taking this into account, the commander organized additional classroom and simulator lessons for his subordinates. Then, he made several flights with each one in a fighter-trainer. The commander was attentive to the slightest success. This encouraged the officers. That was a year ago. The junior pilots have mastered instrument landing approaches. They are also successfully carrying out other exercises according to the program. They are grateful to their commander who helped them [illegible] progress in their operational development.

Here's another example. The party conference pointed out the successes of Capt A. Koval'chuk, secretary of the squadron party organization. He finished the training year with outstanding results; he logged more day and night IFR flying time than the other pilots. And, each of his flights received a very high rating. The squadron's communists have a good knowledge of the missions facing the unit and they are doing everything possible so there will be a continual increase in the quality of the fighting airmen's training and in the squadron's combat readiness. To do this, the party bureau listens to the pilots' reports on the exemplary nature of their flying training. Flights and crews systematically hold discussions on the topic: "Outstanding Performance of Each Flight." The squadron has well organized socialist competition; it evaluates it on a regular basis and has organized assistance for the stragglers. Unit leaders are always interested in the men's opinions and in how they spend their leisure time and days off. Party political activities have a positive effect on developing the pilots' reliability and improving their combat readiness. This attests to the fact that high efficiency is directly dependent upon the psychological attitude toward flying and the mental enthusiasm which evokes positive emotions. In this area, a great deal depends upon the commanders.

Studies have established that negative reinforcement, no matter how it is expressed, leads to an improvement in performance of only 12 percent while rewards lead to an improvement of 88 percent. Therefore, it is very important that a positive psychological atmosphere reign within the crews before and during flights. Shouts, rudeness and hasty, unwarranted conclusions which may demoralize the airmen do not promote high mission performance or compliance with safety measures. As a stimulus, a word has the desired effect only if it evokes reactions and goal-directed activities appropriate to the current situation. If the pilot has made an error, then, in pointing out a way to correct it, the commander must support and inspire his subordinate as much as possible and express his confidence that he will undoubtedly handle the assigned mission.

Benevolence and objectivity, an in-depth knowledge of subordinates' personality traits and looking for the most efficient ways to correct their current weaknesses or to overcome current problems--these are the main areas in developing the fighting airmen's best traits and a high level of responsibility for the results of their work.

The flight surgeon plays a special role in evaluating the airman's physical and psychological readiness to carry out his flying assignments; the flight surgeon participates in flight planning, organization and support. During the pilot's preflight examination, the doctor records his objective physiological data. But, this is not enough. It is necessary to have an interest in whether the pilot is tired, has any signs of being indisposed or irritable and it is necessary to determine whether the crew has a good attitude for the flight. None of this is hard if the doctor has a good knowledge of the individual psychological traits of his unit's pilots and navigators.

Under modern conditions, there is an urgent requirement to evaluate not only the pilot's physical health but also his behavioral reliability and psychophysiological readiness to fly and to scientifically establish crew member efficiency. This data can be obtained during the flight clearance. Traditional clinical methods of control must be supplemented by the special methods used in the psychophysiology of work.

One of the doctor's major responsibilities is to introduce pilots to the principles of psychology, teach them to control their feelings in any situation, explain the importance of a proper lifestyle and preflight rest and convince them of the requirement to engage in physical training and sports.

A frequent cause of a pilot's vascillating actions, constraint and unwarranted timidity during flight may be fatigue. It manifests itself in slower thinking, reduced visual and oral acuity and slow perception of commands. Moreover, the pilot's overall condition, feeling and mood deteriorate. Indifference and a lack of self-control appear. It is necessary to explain to the pilots that a physically strong individual is able to put off the onslaught of fatigue. The best means for preventing it is developing stamina.

The flight surgeon's responsibilities also include a campaign against alcohol. It is necessary to tirelessly explain to flying personnel that drinking alcohol, even in small doses, inteferes with clear thinking and reduces physical stamina. It has been scientifically proven in laboratory experiments and on simulators that, after drinking alcohol, the individual has a significantly lower tolerance for oxygen shortages, acceleration and drops in pressure and temperature and he gets tired quicker. Even after the hangover, the pilot's comprehension of instrument data is worse, his thinking is slower, his muscle tone and accuracy of movement are lower, his coordination is impaired and he has incorrect ideas about aircraft attitude which leads to an increased possibility of accidents.

The junior pilot's psychology is greatly influenced by the unit atmosphere. Of course, we must have strict, prescribed relationships among superiors and subordinates and among all servicemen and strict military order. As the saying goes, friendship is friendship but duty is duty. However, nobody would deny that when friendship declines within the group, duty also suffers. Duty and friendship within our Armed Forces are inseparable concepts.

Oversimplification and indulgence lower the level of the airmen's activity. They lose interest in their profession. Consequently, they breed a proforma approach and a lack of responsibility which directly lead to flying safety hazards.

Aircraft and armament are continually becoming more complex. To operate them intelligently in the air, the pilot must possess in-depth knowledge and a high degree of psychophysiological reliability; he must always be ready to effectively accomplish his assigned missions. Modern combat is not simply a duel between aircraft performance characteristics. It is primarily a skirmish between pilots, a skirmish which is greatly dependent upon their moral, fighting and psychological traits. Victory will go to the one who is able to force his will on the enemy, depress him, force him to doubt his own strength and sow dismay and fear in his mind.

The development of staunch, decisive airmen with superior flying skills is undoubtedly a difficult mission, but we have everything necessary at our disposal to accomplish it.

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AIR FORCES: MAINTENANCE METHODS DISCUSSED

Moscow AVIATSIYA I KOSMONAVTIKA in Russian No 7, Jul 80 p 32

[Article by Engr Maj Sh. Davtyan: "Precision Testing and Measurement Lessons"]

[Text] The following incident occurred in one of the squadrons. At altitude after take off, the pilot put the landing gear control on retract. The green warning lights went out but, instead of the three reds, only two lit up on the display. Repeated attempts to extend and retract the gear were uneventful. The pilot aborted his mission.

On the ground, specialists inspected the struts, sub-assemblies and hatches. They did not detect any noticeable visual damage. Using the test set, they checked the nitrogen pressure in the tanks and the air pressure in the tires. It turned out that one of the wheels was highly overinflated.

The technical crew maintaining the aircraft was experienced and disciplined. The technician and mechanic know their business. How could they have made such a blunder?

It turned out that the specialists topped off the wheels with air the evening before the flight. For the pressure test, they used a pressure gauge which was far beyond the inspection deadline. Due to the inaccurate readings, the wheels were overinflated and this led to the strut's not retracting.

This incident rather convincingly shows the enormous importance of testing and measurement equipment in maintaining modern aircraft. But, for this equipment to function reliably and guarantee precision diagnosis, specialists must know and comply with all the rules for using the test set.

Once every three months, our unit has a special precision testing and measurement day. Thorough preparations are made for it. The regiment's engineers plan the arrangements ahead of time; while drawing up the plan, the unit aircraft engineering service supervisors consider all the test operations, types of inspections and adjustments which will be carried out during the measurement equipment inspection. As is well known, this equipment includes various types of sets. It includes the test sets, the so-called service, radio and electronic measurement instruments, aircraft check-out sets, instruments to measure air pressure and vacuum, rpm's, time, weight, materials properties and many others. Just during the last training year alone, we used hundreds of different instruments for operational checks and preventive maintenance inspections.

For this responsible job, we use the most qualified and experienced specialists, such as Engr SrLt A. Ryabov, Tech Svc SrLts A. Leont'yev and A. Fadeyev, WOs O. Kalachev and A. Martynov and others.

The special precision testing and measurement days are held, as a rule, during the last week of the quarter so this event does not coincide with other scheduled, aircraft jobs. Detailed plans are drawn up ahead of time and later approved by the regimental commander. The plans set the time for each unit to inspect its measurement equipment, indicate the nature of the operations and designate individuals responsible for the jobs. The plans are disseminated to each unit approximately a week before the time set. This is done so personnel will be able to comprehensively prepare for the precision testing and measurement day.

It should be pointed out that the in-depth inspection of the instruments and the comparison of their readings to the standards are conducted by special mobile laboratories which are equipped with the appropriate gear and manned by experienced specialists. It is we, the users, who conduct the operational checks on them and check out the seals, glass, the integrity and play in the controls, the regulators and the documentation. It is important to anticipate the expiration of test inspection operations ahead of time.

In addition, we are obligated to check up on how well and properly personnel are using the instruments. While this was previously restricted to a simple discussion with the specialists, we have now concluded that it is better to test their knowledge with a unique examination and enter the scores in the examination log or the technical training log. This significantly increases our personnel's responsibility for their academic training and [illegible] forces them to make a more in-depth study of the aircraft.

The plans also make provisions for training aircraft engineering personnel on efficient utilization of test sets and on carrying out operational checks on measurement systems. From time to time, set-piece lessons are also organized. How and in what order should particular operations be carried out on the oscillograph and should they be used for changes in aircraft parameters? What does this give us? There were cases where junior specialists would tick off the operations while working with displays and overlook a check of the inspection stamp on the front panel of the measurement system. And this is a major part of the monitoring.

The instruments located at consoles and test benches and sets are checked especially closely. After all, an incomplete job here can turn into a disaster: guided by the readings from inaccurate instruments, the specialists can inject an error into a display which meets specifications and thereby distort the specification.

On precision testing and measurement days, we take the untested, inaccurate and unsealed measurement systems out of service so they can be put on line as soon as possible and we redo the old inspection stamps. This work is well organized in the group where Engr SrLt A. Ryabov serves. WO A. Martynov, who works on the radio electronics equipment team, displays intelligent initiative. The activists have disseminated the techniques of the leading servicemen.

At the end of each precision testing and measurement day, all the engineers evaluate the results in their areas. The deficiencies discovered in the units are reported up the chain of command.

The unit precision testing and measurement service, as has been pointed out on numerous occasions by the commander's designated precision testing and measurement oversight commission, is successfully carrying out its assigned, responsible missions to guarantee aircraft reliability and flying safety.

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AIR FORCES: TASKS IN HELICOPTER PREFLIGHT CHECKS

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[Article by Engr Capt V. Asadchiy, squadron deputy commander of aircraft engineering service: "Inspect Before...."]

[Text] Upon returning from a mission during one of the flying shifts, the aircraft commander told the technician:

"While airborne, there was a discrepancy between the speed readings on the US-450 [speed indicator] and the DISS-15 [Doppler speed meter]."

They began to dig into why this had happened. It turned out that the helicopter cargo hold durite rubber did not have a protective cover. The squadron's aircraft engineering service supervisors looked over the log entries and discussed it with the specialist who carried out the helicopter preflight operations. They discovered that the ground crew chief, Tech Svc SrLt A. Tarasov and his subordinates were at fault.

First of all, what was their mistake? Tarasov did not supervise the mechanic's work performance while the latter did not check the operation of the pitot tube's static pressure system during preflight. It turned out that the superior counted on his subordinate while the mechanic, taking advantage of his supervisor's lack of supervision, reduced his work load. In the end, both violated the standards in the proper documents and did not accomplish their duties as required.

After discovering the cause of the malfunction, the squadron published a bulletin: "Danger--Flying Safety Hazard!" It discussed in detail how the problem had occurred on board the airborne helicopter and who was at fault. This incident was thoroughly discussed during the technicians' critique. It was mentioned on numerous occasions at unit party and Komsomol meetings as well as during official meetings.

All of this was done not simply to prevent similar occurrences but also to develop high technical standards in these specialists. This is precisely why our equipment maintenance unit flight chiefs and maintenance team chiefs devote their primary attention to preventing mistakes during the preflight operations and during the tests and inspections of complex helicopter systems and units. They continually remind the technicians and mechanics what their inaccuracy and substandard performance may lead to. After all, even the slightest oversight may put the flying crew in a difficult situation or cause a useless waste of time or resources. This was discussed in an article previously published in this magazine "In Hot Pursuit"; our squadron's aircraft engineering service personnel got acquainted with this article.

An aircraft specialist's sloppiness is impermissible even in trifling matters. I will cite the following example. Once, in our squadron, an aircraft armament mechanic took a screwdriver from the crew chief's tool kit. He did not tell the officer about this. When the latter needed the screwdriver, he did not find it in its place. Naturally, the crew chief was upset: where had the tool disappeared to? About an hour passed while they were looking into it. So, the mechanic's lack of discipline forced almost all the squadron's aircraft engineering service personnel to look for the screwdriver.

Good organization and precision are the watchwords for improving maintenance and operational use of combat equipment. These are the standards we set for technicians during preflight operations when the greatest amount of various preventive measures and test inspections are carried out. The maintenance team chiefs and equipment maintenance unit flight chiefs draw up their plans so that all specialists are engaged in the inspection and check out of the helicopter status and system and unit status to the maximum extent. Moreover, serious attention is devoted to coordination among the specialists on the technical crew and also to the fact that they should report the malfunctions they detect in a timely manner. As a result of the improved planning and the increased expectations for the specialists, there has been an increase in preflight performance and mistakes during operational use of the helicopters have been reduced to a minimum. The slightest fault detected during the inspections is invariably corrected.

High quality inpections of the equipment are always conducted by Tech Svc SrLt N. Uvarov, an equipment maintenance unit flight chief. He has a great deal of experience which he shares with his subordinates and comrades. If a malfunction is detected in his flight, Uvarov immediately reports it to the other flights and shows them how to trouble-shoot the problem. The officer has the skill level of expert and he enjoys the respect and prestige of squadron personnel. He paraphrased the saying "Look before you leap" in his own way: "Inspect before you leap and say: in good working order" and he frequently repeats it to his subordinates.

Tech Svc SrLt N. Mikhaylev's work is just as punctual and steady. Nobody escapes his attentive gaze. There was a case where the crew chief of an outstanding helicopter detected an unnoticeable amount of water in the fuel during refueling. Mikhaylev's service record contains several incentive awards for his precise actions during helicopter preflight operations.

A lot depends upon the equipment maintenance unit flight chiefs in organizing the specialists' work, upon their ability to plan preflight operations and to make use of each specialist's best traits. Officers V. Fedotov and V. Mikhaylov, equipment maintenance unit chiefs, successfully direct their technicians. The technicians have good teamwork under the leadership of these specialists.

During the most tense training periods: during tactical flying exercises, gunnery practice or while working on other difficult missions where a large number of helicopters are flying, we also use the regimental equipment maintenance unit personnel to service them. This greatly accelerates the flow, increases the quality of flight operations and cuts down on the time for putting the squadron on an alert footing, which is very important.

Aircraft preflight day is used to enhance aircraft engineering service personnel's professional knowledge. If, let's assume, one of the specialists has detected a problem on a helicopter during the preflight or postflight preparations, we analyze it with all the engineers and technicians. Together, we develop steps to prevent its recurrence. The most complex incidents are analyzed in-depth and, when necessary, training is conducted on methods to correct the malfunction or on methods for conducting special inspections. During these lessons, we focus serious attention on training the specialists to quickly and efficiently trouble-shoot all problems detected.

Of major importance in increasing technical standards is spreading the word on the achievements of the best specialists, the leaders in socialist competition and those who have distinguished themselves on aircraft preflight day. Also beneficial are the meetings with the first class crew chiefs, officers A. Batovskiy, S. Degtyarev, A. Kulinich, S. Mikheyev, N. Repin, A. Shkret, N. Povoroznyuk, and WO I. Kirillov. They have something to teach us. They are distinguished by their high work standards, performance and expectations for themselves and their subordinates. All of this is very important for achieving success in aircraft ground crew preparations.

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AIR FORCES: EMERGENCY TRAINING PROCEDURES FOR PILOTS

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[Article by (Res) Col A. Yurchenko: "In an Emergency"]

[Text] On numerous occasions, I have participated in critiques of pilots' actions during inflight emergencies. Many years of experience give me a basis to assert that if the airman is prepared for them, he will act carefully and efficiently and come out of the situation honorably. Conversely, if the pilot has not had special ground training, he will act indecisively in the air, without firm confidence in the propriety of his actions and, in the final analysis, he will be late in making the necessary decision. There are numerous cases which prove that this is correct. I will cite two cases which occurred at different times at the Saratov Higher Air Force Pilots School.

Capt V. Voronikhin, a military pilot first class had to check out a helicopter after its operational checks. As required, he tested system operations with the engine on and lifted off. During acceleration at a height of 50 meters, the engine suddenly stopped. From the point of view of aerodynamics and flying procedures, this was a rather difficult situation. However, the pilot got his bearings instantaneously, made his decision and landed in autorotation; for this, he was given an incentive award by his senior commander.

The other example. Due to improper, inflight actions by both helicopter crew members, engine oil temperature began to increase and the pressure started to drop. Lt A. Sonin was not able to quickly evaluate the situation and efficiently report what was happening to the flight controller. As a result, he wasted time and made a forced landing outside the airfield.

As required in such cases, the pilots were interviewed by experienced commanders. Capt Voronikhin demonstrated an outstanding knowledge of pilot instructions and other documents regulating flying. In fact, in an adverse situation in the air, he acted consistently and faultlessly.

Lt Sonin was also confident and correct in discussing how one should act during a dangerous situation. However, he acted differently while flying. This alerted the school command element. This meant there was a deficiency in the methods for training flying personnel, a deficiency which would have to be found and corrected.

So, while analyzing pilot training for emergencies, they discovered that it was not always given serious attention in the flying training curriculum. As a result, there was oversimplification and arbitrariness. Commanders and instructors primarily demanded firm knowledge of provisions in the governing documents.

Members of the methods council, which was assigned to study this problem, aired it at a routine meeting. As a result, procedures were developed to train pilots and cadets for emergencies. Gradually, they were improved, supplemented and, over time, proved their practicality.

Based on these procedures, it is advisable to train pilots or cadets for unprogrammed situations by phases linked by a common goal.

During the first phase, primary attention is focused on developing a long-term, efficient memory. During each lesson, they repeat the rules and procedures for operating the cockpit equipment which the trainees were introduced to previously; it is only after the goal is achieved that study of the topic continues. This is by no means a new idea; however, success during this phase of training depends upon how conscientiously the instructor carries out this rule.

As show by experience, it is usually best to use ground training for the training sessions and then each preliminary flight preparation session. An oral quiz can sometimes be alternated with a written quiz, especially if it is necessary to test a large number of pilots or cadets within a short period of time. The lessons have a greater impact when the critique of each specific case is supplemented by a demonstration on special-purpose displays. An outstanding grade is earned by the trainee who has accomplished all the required operations in the strictly prescribed sequence. Any error receives an unsatisfactory grade.

The second phase uses simulators. They make it possible to simulate a realistic situation and this means they are very effective in preparing flying personnel for emergency situations. At this point, the most diverse situations can be generated by issuing various inputs and false signals to the pilot's cockpit from the operator's console.

Experience shows that the trainees' greatest difficulties are caused by spurious commands over the radio. With the simulator, it is easier for the instructor to determine the reasons for mistakes. He can see an improper sequence in operating cockpit equipment, a lack of sufficient skill in receiving and processing incoming information and the ability to act on one's own decision. The instructor grades the trainees' moral and psychological traits and he may make comments on their current attention span and also establish how much initiative they have, how stable and goal-oriented they are in implementing their decision, whether they are relaxed or tense, whether their motor coordination is perfect, and much more.

It is necessary to point out that after they failed during this phase of training, several pilots began to look for the reason in the simulator's "imperfection" and all kinds of other circumstances, only not in themselves. This approach to the job must be decisively stopped short. And, even more, a careless attitude toward the simulators must be prohibited. On numerous occasions, I have noticed that pilots take a serious attitude toward the simulator lessons when a game situation is set up. In this case, the trainees blank out the surrounding arbitrary environment and you could say, get completely into the role suggested by the instructor. Establishing this kind of situation is greatly dependent upon the instructor's level of preparations for the lessons and his contact with the trainees. And, of course, the instructor makes the decision to allow the trainees to fly.

The third phase of the lessons is conducted in the aircraft or helicopter cockpit on the ground. The main goal is to teach flying personnel to play out the inputs on their own so the pilots get a physical feel for the aircraft procedure and determine their actions.

When the trainees learn to visualize their actions while playing out an emergency, it will not be difficult for them to have a clear picture of their actions and conduct down to an individual movement. Flying practice convincingly proves that airmen who have been through these training sessions do not lose the skills in the most unexpected situations, skills which were worked on until they are automatic and which enable them to swiftly and accurately implement an instantaneously made decision.

During the first three phases, they also study sites for a forced landing outside the airfield at various altitudes and speeds and at various points along the route.

The fourth phase of training is conducted while flying and, therefore, it is the most difficult. The problem is that it is necessary teach the pilot to act in a realistic environment on the one hand, and to completely observe flying safety on the other hand.

Any failure, even an insignificant one, has an effect on the pilots' psyche and consequently, on their thinking and inteferes with normal perception of the surrounding environment. Some quickly evaluate the situation without any fuss and make an intelligent decision. Others listen and look around a lot without deciding to do anything. It begins to seem to others that this malfunction will inevitably be followed by others and so on. And, they act accordingly.

The ideal of course is when the one and only proper option is selected from all the others and is pursued to the end as, for example, in the first example. However, it turns out that, not having completely evaluated the situation, the airman begins to perform one operation rather than another according to the principle: "I must act; they are watching...."

Or, after making the correct decision, he acts counter to it.

Everybody who has been in flying for a long time could easily continue the list of examples of pilots' correct and incorrect actions in adverse situations. Even less would they deny the decisive role of moral and psychological training for a complicated situation. It has been experimentally proven that, during the initial encounter with an emergency, the pilot spends two-thirds of all the time used to get out of it on defining the malfunction. In the absence of a warning, the untrained airman begins to use the trial and error method. This is why the primary method of training during the final phase of the training sessions is a realistic simulation of complicated and emergency inflight situations.

For these training sessions, guidelines are developed based on a study of experience, guidelines with an accurate and very detailed definition of the goals for the commanders who conduct the lessons during each phase and on each topic. These guidelines are first discussed at the methods (teaching) council and then submitted for the senior commanders approval. It goes without saying that any spontaneity, especially during the inflight training sessions, is simply out of the question. And, of course, the approved guidelines should be thoroughly studied by those who have been assigned to conduct the training.

I cannot help but mention that the basic condition for error-free flying is still prevention. Therefore, in order to reduce inflight emergencies to a minimum, the technician must thoroughly prepare for each flight, especially when the flying training schedule is going like a house on fire and also toward the end of the cadets' training program, when they are preparing for and taking the proficiency tests, etc. At that time, the quality and considered nature of the flight planning takes on special significance.

An intelligently planned and firmly implemented package of measures to enhance combat training effectiveness and methodically correct moral and psychological training for flying personnel to function accurately in the air during any unexpected situations are the main conditions for successfully accomplishing the mission of improving the level of the fighting airmen's operational training and the effective utilization of aircraft and armament.

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